













table that the copper from the lode was carried down in solution and deposited in the bog, where by the action of iron and acids, contained in the peat, a precipitate of copper was formed, and which may account for the metalliferous character of the burnt ashes."—*West Cork Engr.*

#### COAL IN NEW ZEALAND.

It is satisfactory to find that the working of New Zealand coal is receiving increased attention, although, of course, almost every branch of industry—agricultural and pastoral pursuits excepted—in what has not been inaptly termed the "Britain of the South," is at present only in an early stage of development. Boring for coal is proceeding at Shakspeare Bay, near Picton; a short time will decide the success or failure of these exploratory operations, but even if the present effort should fail, it is considered probable that a further search in the neighbourhood will bring to light a bed of valuable mineral. The Kilburn and Mercer Coal Company has been exhibiting samples of its coal lately in Auckland. The company has cut through a seam which is found to be of the great thickness of 55 ft.; the seam is without breakage, and it improves in quality as it goes down. There is said to be an almost entire absence of sulphur, and little smoke follows the combustion of the coal. The top of the coal seam is about 35 ft. from the surface of the ground. The coal is landed at Mercer, and it is forwarded thence by railway to Auckland, which may we suppose be, upon the whole, pronounced the capital of New Zealand. The Kilburn and Mercer Company complains of the high charges imposed upon the conveyance of coal by railway from Mercer to Auckland, as calculated to check the development of operations which ought to be encouraged rather than otherwise; probably with an extension of its deliveries, the company would be soon enabled to enforce a more liberal tariff. It may be interesting to add that the coal resources of Auckland, and especially those of the Waikato district, have been developed to some extent during the last two years, while the excellent quality of the mineral which has been raised from the new mines opens up an encouraging industrial prospect for the neighbouring districts. The Kilburn and Mercer Company, whose property is situated some eight miles from Mercer, appears to be taking every means to facilitate the transport of its coal, and to dispose of it in large or small quantities at a reasonable price. The company has scarcely been in existence a year at present, and the management must accordingly be said to deserve great credit for the energetic manner in which it has pushed forward its operations. The company now possesses a steamer and two barges, which will soon be busily engaged in carrying coal from the scene of its operations. It may be added that the quality of the coal obtained from the Whauwhau mines at Wangarei has improved as the mine worked has been carried to a greater depth.

We need scarcely remark that it is of immense importance to New Zealand that her coal wealth should be energetically worked. The railways and steamers of the colony must be immediately benefited if cheap supplies of New Zealand coal could be made available for their consumption, and the general manufacturing industry of New Zealand would also be stimulated if New Zealand coal were thrown freely upon the local markets. There is no doubt that the mainstay of New Zealand is her agricultural and pastoral wealth, and that sheep farming and corn growing will for many years to come be the chief resources of this still young colony. But, on the other hand, population is now steadily and even rapidly accumulating in New Zealand. The climate is salubrious, and the colony is generally prosperous; the result is that the natural increment of its inhabitants through the yearly excess of births over deaths is very considerable—that is, proportionately very considerable. Then more and more settlers are flowing in every month from Great Britain and Europe, the general Government of the colony having developed of late an energetic immigration policy. The effect of all this will be that in the course of the next ten or twenty years—and, perhaps, even sooner—it will be necessary for the New Zealanders to apply themselves more earnestly than they have hitherto done to the development of the manufacturing industry and the miscellaneous resources of the two islands. It need scarcely be said that they will be very materially assisted in the attainment of this object if they have liberal supplies of coal at their disposal. These liberal supplies will, there is every reason to suppose, be forthcoming, and they assure the future industrial importance of New Zealand.

**INDUSTRIAL PROGRESS IN CHINA.**—The energy, perseverance, and temperance, of the Chinese immigrants to the United States may well alarm the less frugal and industrious of the American working classes, but that the legislators of so great and progressive a country could have permitted the introduction of such a Bill as that of Senator Sargent for restricting the immigration of so peaceful and useful a class of people appears really marvellous. Every inward bound vessel must deliver to the authorities and swear to a separate list of the Chinese passengers, and a fine of \$100 or six months imprisonment is to be inflicted upon shipmasters carrying more than 10 Chinese passengers in their vessel. This class of legislation is the more inexcusable at present as the Chinese are just giving striking proofs of their desire for still further improvement, as an instance of which it may be mentioned that Messrs. John Bourne and Co., of Mark-lane, who have frequently been referred to in the *Mining Journal* as being connected with large engineering undertakings in China, have just favoured us with a copy of the "Chinese Industrial Magazine," published monthly in Shanghai, and which circulates widely throughout China. It is, of course, in the Chinese language, and its object is to impart to the Chinese information regarding the arts, sciences, and productions of European nations, and partly from the example of Japan, and partly from other causes, the Chinese have now become sensible of the value of such information, both to their individual profit and national welfare. As something unique in trade literature, and as the pioneer of the movement which is opening China to the ideas and enterprise of Europe, the magazine is well worthy of notice.

**COLLIERY EXPLOSIONS.**—The Colliery Explosions Fund raised at the Mansion House during Sir Thomas Gabriel's mayoralty has been finally closed, the Lord Mayor, at the request of the committee, having forwarded an additional sum of 1000*l.* to the Mayor of Barnsley for the relief of the sufferers by the Swatthe Main accident, and the balance of 3516*l.* odd to the treasurer of the Wigan Fund for the maintenance of the widows and orphans of the 317 men who were killed in various explosions in that neighbourhood between 1868 and 1872.

**CHILDREN EMPLOYED IN MINES.**—In this year's reports of the Inspectors of Mines attention is called to the continued decrease of the number of boys employed underground, and an Inspector suggests that this may ultimately have an effect upon the number of miners to be had, for boys, as a general rule, do not readily enter pits after they are much above 13 years of age. In the year 1875 there were 694 boys between 10 and 12 years of age employed underground in mines under the York and Lancashire Regulation Act, all but eight of the number being in Yorkshire or Lancashire mines; there were also 9283 boys from 12 to 13 years old employed underground. In mines under the Metalliferous Mines Act, there were 130 boys between 12 and 13 employed underground. In the former (the coal) class of mines, there were also 1520 boys and 10 girls between 10 and 13 years of age employed about mines, but aboveground; and 1179 boys and 306 girls between 8 and 13 years of age about the metalliferous mines, but aboveground. The total numbers, therefore, under 13 employed in or about mines are 12,865 boys and 316 girls, 10,107 of the boys working underground. The returns show also 50,292 boys between 15 and 16 working underground.

**COAL AND IRON IN THE UNITED STATES.**—The Philadelphia and Reading Coal and Iron Company has taken a contract for the delivery of 5000 tons of rails to the Texas and Pacific Railway Company. In the course of the year ending March 31, 1876, the Chicago Rock Island and the Pacific Railroad Company laid down 6243 tons of Bessemer steel rails with a view to the improvement of its track; the company has now steel railled 247 miles of track; steel rails were used exclusively in the renewal of main line track during the past financial year, while iron rails were used for second

track and branches. The total production of anthracite coal in Pennsylvania to June 17 this year amounted 7,118,544 tons, against 6,080,062 tons in the corresponding period of 1875, showing an increase of 1,038,482 tons this year. The total deliveries of bituminous coal to June 17 this year amounted to 1,522,703 tons, against 1,542,673 tons in the corresponding period of 1875, showing a decrease of 19,973 tons this year. The demand for English canal coal has ruled quiet at Boston, and sales have been confined to retail lots. Nova Scotian coal has arrived sparingly at Boston, and has been little enquired for. Anthracite coal has been dull at Boston.

#### CAPITALISTS AND FINANCIERS.

Capitalists would, probably, have great difficulty to refer to any statement more truthful and straightforward than the very able defence of Baron Albert Grant, delivered in the case of *Twycross v. Grant*, which terminated on Thursday evening. It is well known to all who have any acquaintance with City life and City business that the complaint made against the Baron would apply with equal, and perhaps greater, force to everyone who has, at least since the principle of limited liability was introduced, been concerned in the establishment of public companies. Nor is this all, for Baron Grant has certainly never gone beyond the legitimate business of a financial agent, by which term must be understood an agent undertaking, in consideration of a certain payment, to raise from the public a certain sum of money to be applied to a certain purpose, whilst there are many who still escape prosecution from whom the capitalist has more to fear. It will be scarcely necessary to say the persons referred to are those who, in the position of directors and managers, receive salaries from the shareholders until the company's funds are exhausted, then receive salaries as liquidators and accountants, and next resuscitate the concern to repeat the several processes almost indefinitely. That as a promoter Baron Grant has been more successful than most others must be acknowledged, but the reason is easy to discover—he has undertaken more extensive business, and he has risked the capital and displayed the "pluck" necessary to ensure a successful issue—that he has secured a larger percentage of profit may fairly be doubted; indeed, it would not be difficult to point to many cases in which the financial agents' percentage of the purchase-money has been vastly larger than in any in which the Baron has been concerned.

The fact certainly should not be lost sight of that 99 out of every 100 who subscribe for the shares in newly-formed companies have no intention of holding the shares for an investment, but take them merely in the hope, and with the belief, that their market value will increase, and that they will be enabled to sell the shares at a profit. Whether the enterprise is likely to prove permanently remunerative never enters their thoughts, and no further evidence of this need be given than the assertion of the facts that not 5 per cent. of the subscribers examine before subscribing the Articles of Association by which they are to be bound; that they never read the contracts affecting the company, and which are open to them, and that very frequently they could not tell even weeks after subscription whether the property in which they are interested is in Portugal, Brazil, or Spain; in Utah, Nevada, or California; in England, Scotland, or Ireland. Nor are financial agents always more inquisitive upon this point, for even Baron Grant informed the Judge, in bringing forward matters connected with the *Liege* Tramway Company in justification of what had been done by the *Liege* Tramways Company, that *Liege* was a town in France.

And it should also be remembered that there are many companies which meeting with not insurmountable obstacles in their early career, would tide over their difficulties, and prove sound commercial undertakings but for those despicable objects—accountants, professional liquidators, and the like—who, by using their utmost influence to depreciate a company's stock, at last become shareholders at a mere nominal price, and with no other object than that of securing the accountants' and liquidators' fees, regardless of whom they may ruin in doing so. It is this class of operator that inflicts infinitely more injury upon *bona fide* investors than all the financial agents, working upon Mr. Grant's plan, who could be found in the City.

The verdict in the case of *Twycross v. Grant*, although technically adverse to the Baron, really clears him of much of unfairness charged against him; for the Lord Chief Justice told the jury that in his opinion the withholding in the prospectus must be not only wilful but fraudulent in a certain sense, and in another part of his summing-up he remarked that a great many extraneous matters had been introduced. They were introduced by Sir Henry James. Mr. Grant was not answerable for them. In one sense they were material. It might have been suggested that the omission of the mention of the contracts was *per incuriam*; even then his Lordship should be inclined to hold that the case was within the 33th section. But the extraneous matter to which he had referred might throw light on the motive of the defendants in withholding the contracts. He should say a word or two on these matters. It had been said the whole concern was a sham, and the directors only nominees. It was not his business to sit in judgment on these gentlemen; but whatever may have been the feeling in 1871, he could not think that a man taking 500*l.* as a director's qualification from the contractor who was to benefit by the company could at any time be a satisfactory proceeding. Still, it was hard to fix it as an *inducement* of fraud on Mr. Grant that he had done what was and has been a very common thing. Again, as to the press. On this point Mr. Grant was powerful and amusing in his speech. He met the charge like a man. If this was the common state of things it was hard to turn round on Mr. Grant and accuse him of fraud for doing what everyone else was doing.

After directing the jury as to damages that plaintiff was entitled to recover what a fraud had cost him, his Lordship left four questions to them.—1. Were the defendants promoters?—2. Did they enter into these contracts?—3. Were these contracts material to be disclosed?—4. Were they knowingly withheld? Besides these, the Lord Chief Justice asked the jury the following question, at Mr. Grant's request:—Were the statements of the contracts withheld under a *bona fide* belief that by law the contracts need not be stated? The whole of these questions were answered in the affirmative, and the plaintiff's last question—Were such contracts made, and the fact of their existence intentionally suppressed in fraud of the company and of persons invited to take shares in the said company?—was left unanswered; yet, curiously enough, the jury assessed the damages at 700*l.*, acting apparently somewhat on the opposite principle to that adopted by another jury, who found a prisoner not guilty, but recommended him not to do it again; for the *Twycross* jury found that Baron Grant acted under a *bona fide* belief that what he was doing was lawful, but at the same time condemned him to pay 700*l.* for his mistake. His Lordship entered the verdict for Mr. *Twycross*, but respited judgment, and directed him to move to enter judgment on the findings on Monday week. The final result will be looked forward to with much interest.

**INVESTMENT AND FINANCE.**—A Bill has been brought into Parliament by Mr. D. Chadwick, Sir H. M. Jackson, Mr. S. Lloyd, Mr. P. Rylands, Mr. Hopwood, and Mr. B. Whitworth, which aims at removing one of the worst blots of our system of investment and finance. If this measure had been on the statute-book instead of the Companies Act of 1862 the Stock Exchange would have heard of no such scandals as the *Eupion* Gas, and others of the same character, and the promoters thereof would have found no occupation in England for the exercise of their peculiar talents. The chief object of the Bill is to discover the widest possible information respecting the history of every scheme that is offered for public investment. The law is already supposed to provide this by the 35th section of the Act of 1867, but, unfortunately, the judges are divided in opinion as to how that section should be interpreted. The present Bill, therefore, proposes to repeal that section, and to require that the vendors of any business or property to which they desire the public to subscribe shall not only set forth their own addresses, but also whether they have acquired the ownership for purposes of transfer only. They are also to publish the dates and the names of the parties to and the material contents of every contract made before the issue of their prospectus; and the phraseology of the Bill aims directly at professional promoters, directors, and trustees. Every prospectus shall also contain a copy of the Memorandum of Association, and the shares of each person mentioned therein. The names and addresses of every person who is entitled to receive commission, brokerage, or agency charges contingent on the formation of the company, the rate thereof, and by whom payable, are also to be fully set forth. It is also required that the prospectus shall specify the proportion of capital that

is required as a minimum in order that the company may commence business. The Bill has other excellent features, not the least of them being a form of balance-sheet of railway companies. The Bill has been drafted by such an eminent accountant as Mr. D. Chadwick, assisted by such a lawyer as Sir H. Jackson, ought to commend itself to everyone who would purge the Stock Exchange of some of its most scandalous practices. Unhappily, it comes at a late period of the session.

#### INDUSTRIAL PROGRESS IN AUSTRALIA.

The usual annual volume of indexes and abstracts relating to patents in Victoria, prepared by Mr. Richard Gibbs, the Registrar-General, shows that during the year 1875 the number of applications was 146; of these 90 were granted either wholly or in part, and the remainder were refused, or were allowed to lapse by the applicants. In connection with mining there is an invention for changing pump buckets without a capstan, without disengaging the bucket-rods, and without lifting them through the working barrel or column. There is also a mention of "Hayes's patent for smelting iron and other ores;" the fuel used is mineral oil, tar, and other oils, introduced direct with a blast of air or steam. Beaumont and Appleby's and the Burleigh drills also form subjects for patent applications. R. Allen did not complete an application for a safety-cage. Four catching levers, with prongs at the outer end, are placed under the influence of a spring, so that when the rope breaks the prongs are thrown out, and the fall of the cage is prevented. Mr. John Don, of Huntly, Bendigo, proposes to crush tailings upon an inclined table, across which a set of rollers are made to run. Messrs. Denny and Roberts's patent for pulverising, separating, and saving gold, silver, and pyrites, is described as a buddle, around which runs an annular iron trough, in which work conical rollers, fixed on arms attached to the central shaft, which also works the scrapers, brushes, &c., of the buddle.

A patent was applied for by Messrs. Paxman and Davey for their improvements in steam boilers, but the application was permitted to lapse in the absence of the necessary procedure. According to the invention of Mr. W. F. Bassett, of Bathurst, the matter to be treated is agitated in a vessel connected with a retort in which mercury is vaporised. The vapour of mercury is thus condensed, and percolating through the sludge, &c., eventually arrives at the conical bottom, whence it passes into a well for the receipt of the amalgam. The use of metallic antimony for extracting gold from auriferous antimony ores is claimed by Messrs. Newbery, Ulrich, and Brown, of Melbourne. The metallic antimony is fused with auriferous antimony ores, by which the gold becomes alloyed with the metallic antimony. This alloy falls to the bottom of the material under treatment, whence it can be easily removed, and may be repeatedly used with successive charges until it becomes so rich as to make it desirable to separate the precious from the baser metal. The separation is accomplished by oxidising the antimony in any of the ways at present known. There is an aggregate of 5 inventions relating to mining and 29 to metallurgy, but most of them cannot be rendered intelligible without reference to the drawings.

The volume has evidently been prepared with much care, and the precise character of the inventions can be readily ascertained, owing to the conciseness of the abstracts and the clearness of the 33 sheets of engravings by which they are accompanied; it is procurable in this country of Messrs. Trübner and Co., of Ludgate Hill, and will, no doubt, be carefully perused by inventors.

#### THE CITY LIFE: ITS TRADE AND FINANCE.

If the whole city were searched it would probably be difficult to find a man more competent to write upon the subject of Life in the City Financial Circles than Wm. Purdy, and perhaps no better evidence of this could be offered than the admirable little volume\* in which he gives what may be regarded as the financial history of the last few years. A decade in the history of a nation is, as Mr. Purdy remarks, always a period of importance for politics and its commerce, and the era between 1865 and 1875 has again shown that commercial crises do not repeat themselves; they vary in origin, are each susceptible of different methods of treatment, not to be disregarded either by the student or the historian. This period at its commencement was marked by great prostration in the credit of England; there had been failures among banks and great financial houses; the bubble enterprise by limited joint-stock companies had burst, leaving a perfect wreck not only of wild speculation, but even sagacious and prudent undertakings; while the safe investments of many had been sacrificed to the spirit of gambling, and peace and contentment were followed by blighted hopes, defeated and discomfited prospects. The next two or three years rolled onward amidst gloom, vicissitudes, and uncertainty, next the disasters of 1866, followed by a sound superstructure of substantial work for the artisan; afterwards labour was repeatedly on strike, wars in Africa and South America followed, still worse embroilments in Europe, and at last the collapse of France, and assumption of colossal proportions by Germany.

Throughout these years there was generally peace and prosperity for those engaged in British commerce. The sudden closing of continental workshops disordered trade, but the suspension of foreign competition was ultimately beneficial to English producers. This remained the condition of affairs throughout 1871 and for a large part of 1872, but then the prices of money, coal, iron, and most articles of provision began to show rapid increases. There were significant signs developed in the great markets of labour, wages were to be generally increased, strikes became more frequent, and many were the symptoms that a new epoch had commenced, not unmingled with evil, and certainly promising enough for all reflecting minds to ponder over when attempting any forecast of the undeveloped resources of the world, or the sustaining energy of those who follow the pursuits of industry. There were in the succeeding months spasmodic periods of repose, activity, of calm and quietude and rampant speculation, of ease and comfort in the money market, and then of unusual, indeed severe, stringency. At the commencement of 1875 little warning was given by the press of rocks ahead; there had been no absolute depression, but rather a pause after previous leaps of prosperity. There was no reason to assume that the existing depression was likely to be more than temporary. It was not the first occasion on which trade had been depressed, nor was its contraction likely to be succeeded by important consequences.

In the earlier failures of 1875 the financial world was startled, not simply from the magnitude of the concerns, but from the enlargement of bill transactions, the long series of renewals that had been going forward, and the extensive trading conducted largely on losing principles. There were features, too, which proved that discount houses had been resorted to, not for the purpose of short credit facilities to current operations, but to raise capital for purchasing plant, machinery, and even the goodwill of active concerns. The natural consequence was that the discount houses were engulfed in the ruin that surrounded them; the statement of their affairs revealed engagements wholly beyond their means, a huge system of re-discounting with those banks which kept "open doors" for their indiscriminate—often reckless—method of business. The amazement of London was excited by finding millions of money guaranteed by houses of almost notorious bad growth. Some of the bill-brokers who suddenly emerged into notice had been heard of beyond the lanes about Lombard street, others had too often come to grief not to have a wide reputation; yet all brought down were simply indulging in the folly of building houses on the sand, deluding not only themselves, but those who encouraged their operations; living on the fallacies that credit was capital, that there was no limit to the credulity of those who repeated the alchemical symbols of bills, and that the fabric of accommodation paper was of eternal duration.

The history of the period is continued until the way is prepared for a chapter on the escape of Collyer; and in the succeeding chapter the policy of opponents. Mr. Purdy remarks that knowing some of the deliberation which has characterised the movement of the banks, the assertion may be made without hesitation that there was no excitement, vindictiveness, or sensational proceedings. A careful discrimination was also exercised to distinguish legitimate losses, the result of falling markets for two or three years from those disgraceful bill transactions, which have shaken mutual confidence, and disturbed the relations between banker and merchant. Mr. Purdy states that taking the statistics of the last 20 years it will be found that there has been no spasmodic course of action by the metropolitan banks, but throughout a steady growth, and a solid prospect for the expanding commerce of the country, to rest upon which should not have been abused, still less victimised by those who have availed themselves of its power. There is a chapter of critical comments, and another entitled banks on self-improvement, both of which are well worth reading. With regard to the position of banks, there is one point which seems to require greater publicity should be given to it. In the ordinary mode of stating the financial position of banks the figures are given—deposits, 17,426,021*l.*; reserve fund, 841,000*l.*; Government and Indian securities, cash, and short loans, 5,387,485*l.*; and bills discounted and loans, 16,799,379*l.*; which shows on the face of it 23,127,564*l.* of assets to meet 17,426,021*l.* of liabilities, leaving the handsome margin of 5,701,543*l.* to meet contingencies; but from the manner in which the items are grouped, the figures really afford to the public but little evidence of soundness or otherwise; more especially as the reserve fund has in many instances scarcely a tangible existence, and as very frequently a comparatively small proportion of the matters upon which the 16,799,379*l.* has been advanced is readily convertible into cash, and upon seem to be preferable to state how much of the amount has been advanced upon real and readily convertible property, and how much is represented by bills which have been renewed. In well-conducted banks such a classification might be unnecessary, but in such cases the separation would add to the confidence in them, whilst in banks of another class it would at least be useful in giving timely warning to those doing business with them. The chapters on the Bank of England, Stock and Exchange Influences, American Failures, Canadian Affairs, Australian Trade, Finance, the Cape of Good Hope and South Africa, Ship and Marine Insurance, Continental Troubles, Bullion Movements, Foreign Loans, &c., are each carefully considered little treatises upon the subjects dealt with, whilst in appendices are given lists of failed firms, Stock Exchange curiosities, and statistics, assets and lia-

\* "The City Life: Its Trade and Finance." By WM. PURDY. London: Sampson, w, Marston, and Co., Fleet street.











his week; the bed of hard spar is working out, and the lode in the upper part of the forebore is 1 ft. wide, and ore. The rise in back of the 45, east of cross-bore, will also yield 5 tons copper ore and 2 of sulphur per fathom. Some of the course, will also yield 1 better this week. The tribute pitches are rather poor at present. We shall sample this week 40 tons No. 1 ore and about 200 tons poor at present.

**PALEY BRIDGE.**—C. Williams, July 13: I have no change to report in any of the metal bargains this week, with the exception of the Lumb vein, which keeps opening out very satisfactorily, being from 9 to 10 ft. in width, and well filled with lead ore throughout. The sinking of the engine-shaft under the 20 is being urged as fast as the nature of the work will admit.

**PENNY BARYTES AND LEAD.**—J. Kemp, July 13: In the stope below the 40 the lode is worth 25¢ per fathom for lead and carbonate of barytes. In the 40 the lode is worth 25¢ per fathom, and improving. Between the 60 and the 80 the lode is 2 ft. wide, containing lead and barytes in increasing quantities. In the 60 the lode is 2 ft. wide, containing lead and barytes 2 ft. wide solid, and some splendid ore of lead ore. The various bargains are improving. Surface: The tramway staves of lead ore. We are getting ready the crushing machinery, which is all ready and complete, and we are getting ready the crushing machinery, which is all ready and complete, and we are getting ready the crushing machinery, which is all ready and complete.

**PENNY BRIDGE.**—W. T. Harris, J. Delbridge, July 12: There is no particular change in the various bargains and pitches since our setting report last week worth of the metal bargains this week, with the exception of the Lumb vein, which keeps opening out very satisfactorily, being from 9 to 10 ft. in width, and well filled with lead ore throughout. The sinking of the engine-shaft under the 20 is being urged as fast as the nature of the work will admit.

**PRINCE OF WALES.**—J. Andrews, J. Pryor, July 12: We have driven the 77 about 8 ft. south, but finding no lode in that direction we have put the men to drive north-west of the cross-course, where the greatest quantity of water is coming from. In the 55 west we have taken down the lode, and are pleased to say that it contains its size and is very promising, being 3½ ft. wide, worth fully 25¢ per fathom. The lode in the 45 is also looking very promising—5 ft. wide, and 25¢ per fathom.

**RELIANT CONSOLS.**—J. Curtis, July 13: We have begun driving the 34, east of Duke's shaft, by six men; the lode is large so far as seen, with tin, blende, and molybdenite in it, but not to value.

**RHEIDOL.**—John Ridge, July 8: The tramway from Alltdu to dressing-floors will be completed to-day. All the dressing machinery will be fixed in place by Wednesday, so that we can commence grating and picking over the stuff before the end of next week. We shall lose no time in putting the crusher and jiggling machine in order, so as to commence crushing and dressing.

**ROMAN GRAVELS.**—A. Waters, July 13: Everything going on here as usual, and the mine is looking well. We have to-day sold 220 tons lead ore and 20 tons of blende, realising together \$182.

**ST. PATRICK.**—W. F. Jones, July 12: In driving the 120 yards cross cut, north of engine-shaft, promising east and west ore joint has been intersected, from engine-shaft to the junction of the cross-course, where the ore seems to be gradually improving in strength and character as we go down. There is every probability that this will lead us into the main vein, and that it will prove productive from what is now seen. The 90 yards north cross cut continues without material change.

**SOUTH COYDRIE.**—Wm. Rich, W. Williams, Henry Abraham, July 12: We have holed the new shaft from the 30 to the 40, and have completed the adit between engine-shaft and Williams's; this has prevented the water from the adit, east of Williams's shaft, going into the mine. We have suspended the 93 east, which is hard, and is approaching East Hill Greenville boundary. The 93 east is worth 12¢ per fathom. The rise in the back of this level is worth 10¢ per fathom. The winze in the bottom of the 82 east is worth 10¢ per fathom. We hope to hole these places in a few days. No. 2 winze, in the 82 east, is worth 12¢ per fathom. The 82 east is being driven by the side of the lode, so as to extend the level west faster. We purpose cross cutting the lode in places, so as to prove its value. The rise in the back of the 70 west is in favourable ground for progress. The 60 west is worth 15¢ per fathom.

**SOUTH DAREN.**—John Boundy, W. H. Boundy, July 10: The engine-shaft is in regular course of sinking below the 90, by nine men, and fair progress is being made. We have commenced taking down the lode in the 90 end, and as far as taken down it is looking exceedingly well. We will give you the value of the lode per fathom in our next report. Good progress is being made in sinking the shaft below the different levels. The 80 and 70 ends, together with the stopes throughout the mine, are without change to notice.

**SOUTH TOLCARE.**—J. Vixian and Son, J. Paul, July 13: The 50 fm. level cross-cut has been extended about 4 fms. from the engine-shaft, or about half the distance to Fraser's lode; the rock is harder than it has been. At the other points of operation there is nothing new worthy of remark. A more detailed report will be furnished in next week.

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**SOUTH TOLCARE.**—J. Vixian and Son, J. Paul, July 13: The 50 fm. level cross-cut has been extended about 4 fms. from the engine-shaft, or about half the distance to Fraser's lode; the rock is harder than it has been. At the other points of operation there is nothing new worthy of remark. A more detailed report will be furnished in next week.

**ST. PATRICK.**—W. F. Jones, July 12: In driving the 120 yards cross cut, north of engine-shaft, promising east and west ore joint has been intersected, from engine-shaft to the junction of the cross-course, where the ore seems to be gradually improving in strength and character as we go down. There is every probability that this will lead us into the main vein, and that it will prove productive from what is now seen. The 90 yards north cross cut continues without material change.

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but eight heads for the week, which will make against our next sale of tin. We will send a full report in time for the committee meeting on Tuesday next.

**WEST GREAT WORK.**—S. J. Reed, July 11: The Godolphin lode, in the 10 west of cross-cut, in Duke's shaft, is 1½ ft. wide, and not containing so much tin as when last reported, owing to a change in the lode occasioned by the hardness of the surrounding rock, which is dark blende. I expect, however, to get free of this in the course of a few feet, when the lode will probably become more valuable than before; its present value is 5¢ per fathom. The lode in the back of this level is worth 4¢ per fathom. In the driftage east of cross cut the lode contains stones of tin embedded in chlorite and molybdenite, and towards the bottom it shows further improvement, being large and well defined. We have discovered what I consider to be the Godolphin lode in the cross-cut between the adit and the 10 fm. level. I have probed into it a little way, and find it contains a good assay of tin. We have not quite cut through it, but thus far the prospects are in every way satisfactory for the depth. By the desire of the secretary I am preparing a plan showing the new part of the mine, and its position in connection with the engine-shaft.

**WEST MARIA AND FORTESCUE CONSOLS.**—Wm. Skewis, July 13: Willesford's Shaft: There is no change to notice in the counter lode in the 95 west since last report. It is still 2½ ft. wide, containing a lead of copper ore. North Lode: In the 52 west the lode is 3 ft. wide, producing little copper ore and molybdenite. Water is also flowing freely from the end. The lode in the 71 west is about 2½ ft. wide, worth for copper and molybdenite 10¢ per fathom. The tribute pitches are looking much the same.

**WEST MILWR.**—Wm. Francis, July 12: We are still intersecting some branches of spar in the 70 yard cross cut, south from West Meadow shaft, in a pure conical white bearing rock. I have every confidence of finding the vein rich in these measures.

**WEST KERVILLE.**—A. Waters, July 13: The different points referred to in my last general report continue to maintain their productiveness. We have to-day sold 30 tons lead ore for 428¢.

**WEST WHEAL GORLAND.**—John Mayne, July 13: Since my last report we have driven through a lode 9 in. wide, producing good stones of copper ore; but have since driven 2 ft. south, and intersected another branch impregnated with copper ore, and we are of opinion that the main lode is still ahead of us, therefore every energy is pushed forth to reach the desired object, as the present point is pierced of quartz, cupel, and copper. On Monday morning last we took two men from the cross-cut to drive on the two branches, with the view to get to the junction of them in a few feet driving.

**WEST WHEAL TOLUUS.**—July 11: Taylor's shaftmen are now engaged in fixing a drawing-lift at the 135, which we calculate will be completed on Friday; after that we shall push on the sinking of the shaft to the 145 with all possible dispatch. The lode in the 135 west is 5 ft. wide, with stones of ore, but not enough to value. The lode in the No. 1 winze is about the same size and of the same quality. As the winze is deep for drawing the stuff by hand, we have to-day stopped the men from sinking, and put them to stope the bottom of the 125 east from the top of this. The lode in the 125 west is hardly 2 ft. wide, with a little ore. The lode in the 115 end west is 3 ft. wide—poor. The lode in the 105 end west is about 3 ft. wide, with very little ore. The lode in the 95 end west is yielding a little ore, about ¼ ton per fathom. Richard's shaftmen are going on with the sinking tolerably well. The lode in the 85 west is very wide; the part on which the end is being driven is yielding about 2 tons of ore per fathom. The lode in the 65 end west is small and unproductive; the same may be said of the 115 end west.

**WHEAL CREBOR.**—J. Andrews, July 11: There is no change in the 120 cross-cut south. The lode in the 103 east is looking better, and is now 18 in. wide, yielding good stones of copper ore. There is no change in the 72 east. The lode in the 48 east continues large, but at present yielding only occasional stones of copper ore. The lode in No. 1 stope in the back of the 48 is worth 15¢ per fathom. The lode in No. 2 stope is worth 10¢ per fathom.

**WHEAL GREYVILLE.**—Steghens, Richard, July 12: The part of the lode carried in the 150 fm. level east end is worth 6¢ 10s. per fathom. Nothing has been done in the 180 west end during the past month. The 150 east end is worth 11¢ per fathom. The 130 east end is worth 7¢ per fathom. North Shaft: In the 140 we have commenced to drive both east and west on the course of the lode. The north part of the lode for 6 ft. wide is worth 20¢ per fathom. The stopes generally are looking just as usual. The 130 east end, on the old lode, is worth about 4¢ per fathom, and improving. No other change.

**WHEAL KERRY (St. Agnes).**—Steghens, Richard, July 8: New Shaft, Pryor's Lode: In the 154 cross-cut we have cut into the lode between 2 and 3 ft., but no north wall has yet been reached; it is producing tin, and presents a kindly appearance. Our progress is slow, in consequence of the lode being hard and wet. The other bargains maintain their size and value as reported in our last, hence there is no change to report.

**WHEAL MARY HUTCHINGS.**—Henry Miners, July 12: Since my report on May 24 we have driven several fathoms in the 32, through a highly mineralised and very hard rock, and the lode is now 2½ ft. wide, and is now worth from 3¢ to 4¢ per fathom. I am still of the opinion that this lode will prove very productive, and when developed will pay well for taking away. The new south, or Hemerdon lode, during the last three or four weeks has been greatly disordered, owing to a cross-branch which came in from the north and crossed the lode at right angles; although highly mineralised, it almost destroyed the lode, and the ground has proved very troublesome for driving, but in the last week the ground has again improved, and we have now a lode which is still large, and we have men engaged on that lode raising molybdenite, which we expect to sample 20 tons this month.

**WHEAL PEEVOR.**—W. T. White, July 12: Setting Report: The 70 to drive east and west of Sir Frederick's shaft, by 12 men, at 4¢ per fathom; we are carrying but a portion of the lode in either end, but for the part being carried they are worth 25¢ per fathom each. The shaftmen at present are engaged in dividing and casing down the shaft from the 63 to the 70, for the purpose of getting down the fire which is in the shaft, and the shaft is now 2½ ft. wide, and is now worth from 3¢ to 4¢ per fathom. I am still of the opinion that this lode will prove very productive, and when developed will pay well for taking away. The new south, or Hemerdon lode, during the last three or four weeks has been greatly disordered, owing to a cross-branch which came in from the north and crossed the lode at right angles; although highly mineralised, it almost destroyed the lode, and the ground has proved very troublesome for driving, but in the last week the ground has again improved, and we have now a lode which is still large, and we have men engaged on that lode raising molybdenite, which we expect to sample 20 tons this month.

**WHEAL UNY.**—W. Rich, M. Rogers, W. Bennetts, July 8: We have begun a rise in the back of the 160 west, towards the incline shaft. The 150, west of this shaft, is worth 10¢ per fathom. In the 150, east of Goding's, we have set a cross-cut north, we think the main part of the lode is standing in that direction. The 140, east of King's, is worth 10¢ per fathom. The 120 east is worth 8¢ per fathom. A rise in the back of this level is worth 8¢ per fathom. The winze in the bottom of the 10 is worth 10¢ per fathom. The 110 end east is worth 7¢ per fathom. We are driving a short cross cut in the 100 to prove if there is any more lode standing to the north. We have to-day sold 12 tons 10 ows, 2 qrs. 20 lbs. of tin.

### THE ISABINDA GOLD COMPANY.

The first general meeting was held at the offices, Great Winchester-street on Monday.—Mr. J. WESTMAN SHERMAN in the chair. Mr. T. ORCHARD (the secretary) having read the notice convening the meeting.

The CHAIRMAN said: I have been called upon to take the chair at this meeting at the last moment, the secretary informing me that your Chairman has just telegraphed from Hamburg that he has most unfortunately missed his boat, which prevents his being present on this occasion. This is to be regretted, from the fact that he has prepared a careful report of the progress of the works on the property from the commencement of operations in April last, taken from the correspondence of our agent (Mr. James Louis Pond), whose thorough knowledge and experience in hydraulic mining in California warrants the directors in believing that his most sanguine expectations may be realised. We are informed the property is situated in one of the richest gravel claims on the west branch of the Feather river—a place notorious for the richness of the gravel deposits in gold. It has hitherto been only partially worked by the crude method of panning. We, however, have the advantage of (say) 300 in. of water, brought a distance of over a mile up the river above our claim. Mr. John Deasly Barry (whom I believe we all know personally) is at the present time in California. He left England on May 27, for the purpose of being present at the starting of our undertaking. Mr. Pond informs us he hopes to have everything complete and ready to start washing this month. I will ask the secretary to read a report of the work we have received from Mr. Pond, and also his letter dated May 25, which is very encouraging. The agent's report, which went carefully into every detail, was most satisfactory. The CHAIRMAN said: I am told there is a gentleman present named Mr. Alexander Stewart. He has had considerable experience in hydraulic mining, both in California and other States of America. His name I find connected with many flourishing local companies named in the statistics of the United States Commissioner's report (Prof. R. W. Raymond). I think it would be satisfactory for the shareholders to have an unbiased opinion of the value of the Isabinda property, if Mr. Stewart will kindly inform us of what he knows of that part of the gold district of California.

I am very happy to be able to give you my opinion of your property. I have lately arrived in England on a pleasure trip, and until I came here I had no idea of the existence of this company, or of any person connected with it. I do not know your individual property, but I am well acquainted with the locality, especially the gravel deposits on either side of the Feather river. They are exceedingly rich in gold, and many parties have made lots of money by washing the gravel. The great drawback hitherto has been the great expense of washing, which could only be done when the snow melts in spring, and would certainly cost 10s. to 12s. per cubic yard. Hydraulic mining reduces the cost of washing to a minimum, and the ditch which you are constructing immediately makes your property of the greatest value. In my opinion it is a fortune in itself, irrespective of your claim, as this right of water-power, of which you are possessed, controls the whole of the properties around you. I have read over Mr. Pond's report to you, and I should say he was a man who thoroughly understands what he was talking about. I have had considerable experience in hydraulic mining. I have found that by washing gravel containing (say) 50 cents of gold per cubic yard pays more than 10 cents per yard, whereas formerly it used to cost the miner \$15 per yard to pan out the gold. I believe Mr. Pond is correct in saying your ditch will be worth \$200 per yard to you if you do not require it to work your own property. I

have built many ditches, one 120 miles long, and I know pretty well the immense value of water. I have received as high as 60 cents per inch for water, but a fair average price may be taken at 12½ cents per inch. I think, gentlemen, on your moderate capital of 10,000, you have a very fine investment which should satisfy every shareholder.—A. STUART.

The CHAIRMAN: You are doubtless aware that this meeting is purely of a formal character, in compliance with the Companies Acts. I think, however, the shareholders have cause to congratulate themselves on the advanced state of the works of the company, and to thank their agent, Mr. James Louis Pond, for the energy he has displayed and for the progress made during the three months the company has been in possession of the property.

The meeting terminated with a cordial vote of thanks to the Chairman and directors, also to Mr. Alexander Stewart for having kindly attended the meeting.

**WEST BASSET.**—The shareholders will hold their three-monthly meeting on Thursday, and in anticipation of the meeting the following report has been sent to them:—Grenville's Shaft—Flat Lode: The lode in the 114, east of shaft, is worth 10¢ per fathom, and to the west of the shaft it is worth 7¢ per fathom. The lode in the 134, west of shaft, is worth 7¢ per fathom. The lode in the winze below this level is worth 8¢ per fathom, and in the back it is worth 8¢ per fathom. The lode in the 124, west of shaft, and to the east of winze, is worth 12¢ per fathom, and in the 114, west of shaft, is worth 12¢ per fathom. There are eleven stopes working about this shaft, worth on an average 10¢ per fathom. Percy's Shaft: The lode in the bottom of this shaft is worth 17¢ per fathom. The lode in the 164, east of shaft, is worth 16¢ per fathom. The lode in the 164, west of shaft, is worth 14¢ per fathom. The lode in the 164, east of cross-cut and to the east of shaft, is worth 9¢ per fathom, and to the west of cross-cut it is worth 8¢ per fathom. The lode in the 154, west of shaft, is worth 10¢ per fathom. The lode in the rise in back of 134 is worth 8¢ per fathom. The lode in the rise in back of 114, south of shaft, is worth 6¢ per fathom. There are 14 stopes working about this shaft, worth on an average, 11¢ per fathom. Thomas's Shaft: The lode in the rise in back of 124, west of shaft, is worth 3¢ per fathom. The counter lode in the 124, west of shaft, is worth 6¢ per fathom.

[For remainder of Meetings see to-day's Supplement.]

### ECHOES FROM THE MINING MARKET.

There is scarcely anything new to report of the metal markets collectively, and consequently of mining shares. We notice, however, a rather better tendency in one or two departments, and a more general inclination on the part of investors to pick up cheap shares. Of these there are many in the market at the present time, and, whenever matters mend, the shrewd buyers of the moment will certainly realise very large profits. All cheap lead shares should be worth buying, whilst the merits of some of the low priced, but sound, tin shares should not be overlooked. Coming to the metal markets in detail, we find that the operations in tin during the month of June, although slight, have not been without interest. Whatever demand we have had has been for consumption, little, if any, speculation having taken place. The market, in fact, closed with a better appearance, and at an advance which enabled the Cornish smelters to make the upward movement in the standards we chronicled last week. A feeling, too, of greater confidence in the future of the trade appears to have sprung up; and this, to a great extent, is warranted, as statistics show that the consumption of the metal is steadily increasing, whilst stocks are getting lighter (during last month the decrease in London stocks was 500 tons), and will probably continue to diminish. In the face of but trade this is very satisfactory, the more so as it is a better demand alone that our home mines must look for a permanent amelioration of their prospects, for unless this consumption continues to increase (and as we have seen there are good hopes of it) the Australian supplies will certainly weigh down the market, and produce lower prices. With reference to the colonial tin works, latest advices speak of great scarcity of water; and according to the "Sydney Herald," operations throughout that district are actually at a standstill from this cause.

Copper is declining, on a sluggish demand, and, judging from the tone of the market, lower prices still are anticipated. The Cornish standard is naturally falling also. Iron could not well be worse, and if lower prices are to prevail, more blast furnaces will have to be dumped down. As it is the loss in the North on the production of the raw material must, in many cases, be a matter of grave anxiety to the parties concerned. So great are the expenses entailed by stopping the running of a blast furnace that most ironmasters prefer working at a certain heavy loss to absolutely closing their works. Coal is still dull, but lead continues to be the firmest of the metals.

In the share markets the principal business has been done in lead, colliery, and foreign securities. Of the first named, Roman Gravel, Tankerville, Llanwrst, Pennerley, East Van, Rookhope, and West Tankerville preference have met with the most attention. In colliery shares business has been almost entirely confined to Thorp's Gawler Hall and Chapel House. The former have declined (price, 3½ to 3¼); the latter remain at the same quotation as last—2 to 2½. The latest information respecting this company will be found below.

In foreign shares we have had a fair market. Business has been done in Ennma, Flagstaff, Santa Barbara, Sweetland Creek, Birdseye Creek, Richmond, Eberhardt, Frontino and Bolivia, Javali, and several others. The Richmond "run" is valued at \$57,000. The Pestarena Company have received their June advices, from which it appears that the total production for the month is 265 ows of gold. The Don Pedro produce for the same period is 6000 ows. The Birdseye Company, after a run of 30 days, have cleaned up. Gross returns, \$6250; profit, \$220; remittance, \$2000. The Sweetland Creek shareholders have just had a dividend before them the latest advices from their superintendent—D. D. Maclean. The information given is extremely encouraging, in fact, to use the superintendent's own uncompromising words—"The mine is evidently short-lived, or on its last legs." It will be remembered, perhaps, by our readers that the result of the last clean-up was a loss of \$1000. When Mr. Maclean's advices were dispatched he was in the midst of another clean-up, from which he anticipated very light returns. The developments since the last report he states to be "anything but flattering," whilst the bottom of west bank, opposite shaft No. 3 (where remunerative stuff was expected), is looking "very desolate." The gravel in all quarters is becoming of lower value, and although the next run, the one after, and possibly the third run, may give a small profit, the margin is likely to be of the narrowest character, as there is no free water, and no possibility of their being any. Such is Mr. Maclean's report. It has the merit of showing the shareholders their exact position, and we are afraid there is now nothing more to be done but to wait the result of the next three runs, and then to shut up the concern as speedily as possible. The plant should be worth something considerable, and the debts ought not to be heavy.

The following is the result of the week from Cornwall: A very encouraging report has been received for the West Bassett shareholders, in view of their meeting on the 20th inst. The total productive points are valued at 437½ per fathom. West Godolphin has sold over 12 tons of tin, the produce of a month. It is hoped that the stamps will be set at work in about a month's time. The various points in operation are valued in the aggregate at 91½ per fathom. At Penberthy Crofts (a famous old mine, which has yielded immense returns) a dozen men are raising about 3 tons of tin per month from the adit. At Relistian Consols the shaft is down to the 54, and a cross-cut will be made soon to prove the size and value of the lode. Shares nominally 7½ to 8. At Grenville the 140 north is worth 20¢ per fathom, a very promising lode we hear. A petition to wind up the affairs of Frank Mills (a Devonshire mine) has been presented to the Stannaries Court by a Cornish merchant. This mine for a long time past has been noted for its heavy calls on the adventurers. At one time it was a dividend-paying property, and the shares were then in great favour. About 26,000, had been called up. Herodfoot has made a profit of 4¢ on four months' working, and has a balance of assets over liabilities of 1580¢; cash balance, 761. During the past four months the sales of lead ore have been 19 tons 10 ows, 2 qrs. 20 lbs. of tin. The East End Colliery, which was expected to be a good deal of money is owing to merchants; but, strange to say, the adventurers continue to divide the so-called profits.

The rumours that the usual quarterly dividend of the Chapel House Colliery would not be paid have been officially confirmed during the past week, the directors of that company having issued a circular deferring indefinitely the payment of further dividends. This circular, which details the position and prospects of the company, gives evidence of probable financial embarrassments, which must be the reverse of encouraging to the shareholders, and we fear the hopes we expressed some time since that the directors would be able to surmount their monetary difficulties will not be speedily fulfilled. The progress at the colliery itself appears to be all that could be desired. As we stated last week a fair profit is still being made in time when most other similar undertakings are actually losing money; but now the old rate of profits cannot be maintained, and the heavy works in progress cause extensive demands on capital, the incubus of want of capital that from almost the commencement of operations has adversely affected the financial character of the company is beginning to be severely felt, and latterly the invitation to







mening on Sept. 1. By smelting the profits will, it is estimated, be much larger than by shipping ores to this country.

The Market for Gold Washing Shares has been quiet, business having been impeded by the fortnightly settlement. There seems, however, rather more enquiry for this description of investment. Birdseye Creek, 3 to 1; the agent has telegraphed the result of washing for June, showing a profit of \$2250. The annual meeting is called for July 25, and the accounts and report are to be issued to-day. The water in Birdseye ditch was failing, but arrangements have been made with the South Yuba Canal Company, the agent of which thinks he can supply one head until Oct. 1 if required. Cedar Creek, 3 to 3; the agent reports that he is washing with all the water he can command, and pushing on with the Yankee Tunnel as fast as the nature of the ground will admit, the progress being very slow.

Sweetland Creek, 3 to 3, and freely offered. The directors have circulated some later information amongst the shareholders, by which it would appear that the statement of the superintendent, in his annual report to the length of time it would take to deal with the remaining gravel, will hardly be fulfilled, though the next two or three runs will doubtless leave a profit. Blue Tent, 3 to 3. The ditch continues to bring down a steady supply of water, which is being used to the best advantage. The bed-rock tunnel in South Yuba claim is completed for the present, and the men set to sink a shaft to communicate with same. Everything is progressing satisfactorily. Oregon, preference, 4 to 4; the washing hitherto has been carried on more with a view of testing the value of the gravel and proving the course of the channel. At date of last advices, June 20, this had been determined, and the last two short runs, for a period equal to seven days of 24 hours, had produced \$1338; a very satisfactory return.

For British mine shares the market continues unsettled and depressed. Van, 36 to 38; all parts of the mine, both underground and at surface, are progressing in the usual way—very satisfactorily. Good progress is being made in the necessary work for the erection of the new pumping-engine. Glyn, 23 to 34; an important discovery has taken place in the winze sinking in the 15, west of the cross-cut, where lead has been found. The rise in the lode above the 15 is worth about 16d. per fm., and the winze sinking under the 15 east is worth about 20d. per fathom. The shaft is down deep enough to cross-cut north to intersect the lode at another level, driving towards which will be commenced next week. The appearances of the mines generally are favourable.

Grognion, 53 to 63; the half-yearly meeting is called for Friday next, when a satisfactory report and statement of accounts will be presented, and a dividend of 2s. 6d. per share declared. During the past six months a great deal of development work has been executed, and the prospects of the mine are stated to be better than at any previous time, with the likelihood of further steady improvement. The manager's report for the half-year will be found in another column. Cwm Dwyfor, 1 to 1; a special report by the agent, Capt. Jewell, will be found in another column. The mines appear to be presenting favourable indications as the operations attain depth. Wye Valley, 63 to 73; the driving of the 22 east is going forward in most promising ground, and improving daily. The adit level east is showing an increased quantity of ore, and all other points are looking well. West Wye Valley, 33 to 43; the mine is steadily improving at all points, and the lode maintains its rich character. Saint Harmon, 34 to 33; excellent progress is being made at the various levels, and further important discoveries are expected.

Pennery, 13 to 13; there is no change whatever at the mine. The various ends are producing much as usual, and are looking as last reported. Good progress is being made in the underground work, but water is getting scarce for dressing. Pateley Bridge, 33 to 43; no change, except that the Lumb vein is opening out in a satisfactory manner; other parts of the mine as last reported.

Subjoined are the closing quotations:—  
Ashton, 1 to 1; Carn Brea, 38 to 40; Devon Great Consols, 23 to 3; Dolohat, 34 to 36; East Caradon, 1 to 1; East Looe, 1 to 1; East Van, 6 to 6; Glyn, 23 to 24; Great West Van, 34 to 3; Great Lacey, 17 to 18; Hingston Down, 34 to 36; Marke Valley, 13 to 13; Pateley Bridge, 33 to 43; Parys Mountain, 33 to 34; Pennery, 13 to 13; Penstruthal, 34 to 36; Roman, 14 to 14; Tankerville, 93 to 10; Tincroft, 13 to 13; Van, 36 to 3; Van Consols, 13 to 13; West Ashton, 13 to 13; West Basset, 4 to 5; West Cliverton, 17 to 18; West Tankerville, 13 to 13; Wheal Green, 34 to 3; Alameda and Tinto, 34 to 36; Argentine, 54 to 56; Birdseye Creek, 34 to 3; Cape Copper, 37 to 40; Cedar Creek, 34 to 36; Chontales, 34 to 36; Colorado, 13 to 13; Combes of Chili, 53 to 54; Don Pedro, 13 to 13; Eberhart and Aurora, 83 to 84; ex div.; Emma, 34 to 36; Exchequer, 13 to 13; I.L.L., 34 to 36; Flagstaff, 13 to 13; Frontino and Bolivia, 23 to 24; Glyn, 23 to 24; Glyn Consols, 34 to 36; Pentreath, 34 to 36; Rio de Janeiro, 34 to 36; St. John del Rey, 33 to 35; San Pedro, 13 to 13; Sierra Buttes, 34 to 36; St. Michael, 34 to 36; Sweetland Creek, 34 to 36; Teoma, 34 to 36; United Mexican, 13 to 2; Blue Tent, 3 to 3; Oregon, pref., 4 to 4; West Pateley, 5 to 5.

COLLIERIES.—The dullness which has characterised the coal trade for months past still continues, though it is now some time since prices have suffered any serious relapse. So far as these are concerned, the worst may be considered to have been reached; and the continuance of the present depressed state of the trade for some few months to come is, perhaps, as bad as anything we have to fear. Before, however, any collieries, except such as possess unusual advantages, are again able to turn a profit, several changes must come about; but these are more a matter of labour question than anything else. We have now experienced some few years of unusual inflation, and the profits made by coal and ironmasters have naturally excited the enmity of the workmen, who have agitated for and obtained an increased rate of wages, comparatively far in excess of the enlarged profits of the proprietor. The price of coal has relaxed to something like a fair rate, and any improvement in that respect must be the result of increased trade. It would, therefore, seem that present profits must for a time be obtained from a reduction in the wages of the coal miners, which must, in turn, be lowered to something like a similar rate with that of the other working classes.

No doubt the wages of the miners of South Yorkshire are in excess of those obtainable in most other districts, but here they range from 7s. to 11s. per day. This is a most excessive rate, though if it did the miner good one would be less inclined to grumble; but at present it necessitates the miner working only a couple of days in the week to obtain a livelihood, the remainder being absorbed in payment with his master, and yielding time for the furthering of discontent. Let wages be reduced to 8s. per day, and the working day increased from eight to ten hours, and both masters and men will equally benefit—the former in pocket and being able to compete with the foreigner, while the miner at the week's end would find himself in possession of as much money as now, but having had to work the six days his fellow folk would be on a par with them, besides having had but little time to experience any discontent. However, there is a probability of better times, both as regards prices and wages, at no distant date; while it is not possible that the trade could become more depressed. Under these circumstances opening up collieries should now be commenced, so as to take advantage of low prices in material and any further reduction in the price of labour, with a view to keeping the cost of deadwork down, and so, when a rise in the price of coal comes about, to be able to reap a maximum rate of profit. Colliery shares are now very low in price, and should undoubtedly present good opportunities for investment, many being obtainable at rates far below their intrinsic value. The principal shares dealt in during the past week have been Thorp's Gawber Hall and Chapel House. A note has also been done in West Mostyn preference shares.

Of Thorp's Gawber Hall there is no news whatever, as since the offices have been removed to Barnsley there seems to be no means of obtaining information as to the state of the mine. In the South Lancashire district the reduction of 15 per cent. in wages has been agreed to by the colliers, and this will be a great boon to Chapel House, to whom it will make a difference of 4d. to 6d. per ton, and the profits, which are now very low, will be increased by that amount. Chapel House shares close at 23 to 3, having been at one time as low as 2, which price they receded upon the belief that there would be no dividend this year. The effect of this impression was, however, too freely discounted by the "bears," and when the circular announcing that there would be no dividend, the shares had a sharp rise, and are very scarce. The subject of the new plant, the secretary in his circular to the shareholders writes: "The colliery has lately been inspected by two of the directors most practically acquainted with the subject, and they express themselves much gratified with the progress made towards the completion of the new plant, and the manner in which the work is being carried out. I would call attention to the fact that the machinery now being erected is of a most massive description, and, when completed, will be limited by the extent of opening out and of the underground workings. As the profits now being made are handsome with an output of 300 tons per day, it is evident that when the new plant is completed they will be considerably increased, and will be very large indeed. The shareholders should not, therefore, be discouraged. Lay Hall close at 83 to 9. Allam's shares are at 5 to 53/4; firm; the shares are progressing satisfactorily. West Mostyn close at 3 to 33/4. Cardiff and Swansea, both as now at 13 to 23; but there is little business doing in them. Biron and Crump Meadows are also at 73 to 83. New Sharlton close at 4 to 43/4. Staffordshire shares close at follows:—Cannock and Huntington, p. r. Hamstead (Limited), 3/4 prem.; Perry Colliery, 1 prem.; Sandwell Park, 24; Bion Lane, 3/4 dis.; West Cannock, 2 prem.

RAILWAYS.—July 13. The following quotations are from Mr. J. H. Thacker's list:—Hallifax and Huddersfield Union Bank, 293/4; Hallifax Joint-Stock Bank, 293/4; Hallifax Commercial Bank, 293/4; London and Yorkshire Bank, 21s.;

John Crossley's, 121/2; Whitworth and Co., 8; Elland Gas, 20; Rastrick Gas, 181/4; Bedford Brick and Tile, A. 21; ditto, B. 7; Charlestown Brick and Tile, 10; R. Borden Commercial, 111/2; Hedden Bridge Cotton, 10; Yorkshire Boiler Insurance Company, 22s. 6d.; Norton Brothers, 75.

The BODIDRIS MINING COMPANY, with a capital of 30,000L, in shares of 1L each, has been formed to purchase and work a property one mile on the course of the lodes (embracing the old Craiglog Mine and a new mine being worked on a lode a short distance south). The prospectus states that the lodes now being worked upon, and proving highly remunerative even as at present opened up, are parallel to those of the celebrated Minera Mines, in the immediate neighbourhood, which for the last 17 years have returned an average of about 400 tons of lead per month, and paid in dividends to the shareholders in all 533,275L. Owing to the roads being good, and the railway at hand, the cost of carriage of materials to and from the mine is trifling. In consequence of the present discoveries the costly process of unprofitable exploration which has generally to be endured by new companies will be dispensed with, and returns will be made while further development is going on. In reporting upon the property Capt. Francis states that it has seldom been such a satisfaction to him as on this occasion to report on a property in which he has the most unlimited confidence of quick and profitable results, and on so extensive a scale; and he will be most happy on all occasions to afford any additional information in his power. Messrs. James Nancarrow and Walter Eddy state that the situation is everything that can be desired; there are excellent roads, a good stream of water that can be adapted for a water-power, and for the dressing of ores, and there is an abundant supply of experienced miners in the immediate neighbourhood. And Messrs. Williams and Kyrie report that they were much pleased with the ground in the levels on the "Vein Canal," which is about 4 ft. wide, with well-defined hanging and foot walls, and they would recommend that the levels above mentioned should be driven forward as rapidly as possible to cut the intersection of Veins Craiglog and Canal, as we have little doubt that at the junction of two such strong ore bearing lodes a large body of ore will be found to exist.

NORTH LACEY.—The steam-engine will be set to work this month, when the works at the bottom of the mine (now under water) will be pushed on without any chance of interruption in the future. Another 30 tons of lead ore have been sampled.

GLENROY.—The engine and crusher will soon be at work, when returns will be made, and the rich lode already cut in several places between the 25 and 40 will be intersected at deeper points. At present, owing to the dry weather, nothing can be done below the 25, but a cross-cut is being driven there to a parallel lode, which is not far off, and a branch containing lead has already been passed through. The prospect of the mine becoming a very productive one in a short time is as good as ever.

ROCKHOPE.—It has been necessary to make alterations and repairs in the machinery and surface works, to render them more efficient; and for this purpose the fresh capital recently raised was partly required. In the meantime these proceedings have interfered with the returns of lead ore; but Mr. Blenkiron expects after this month to dress considerably more ore than has hitherto been done. He says that there are nine men driving the 42, and tramping stuff to shaft, at 4d. per fathom. The end of this level is only about 54 fms. from being under the first winze in the 25, in which there was some "splendid ore," and about 80 fms. from the best part of the mine in the upper levels. The object lately has been to put the mine and plant in a sound and efficient state for increased and permanent returns, which must have taken time, but is now very nearly accomplished.

TAN-YR-ALLT (Cardiganshire).—This little mine has this week sold 15 tons more of lead ore, making since Jan. 1 upwards of 70 tons, realising over 1000L, and giving a profit over cost of over 300L. This on an outlay of only a few thousands shows what judiciously managed mining in Cardiganshire can be made to do.

EAST POOL continues to increase in richness in depth and going east, indicating a degree of success exceed by no mine in Cornwall.

WHEAL AGAR.—The new steam-stamps have just been put to work most satisfactorily. The mine is opening up equal to the most sanguine expectations, the lode in the shaft increasing in size and richness every foot that is sunk.

GREAT LACEY.—The directors have declared the usual quarterly dividend of 8s. per share, and a bonus of 2s. per share. In conformity with the resolution passed at the general meeting in April, the directors have thoroughly gone into the question of providing permanent steam-power for the conveyance of the company's ores as sold. Extensive enquiry proved that the best and by far the cheapest consignment adopted was for the mining company to purchase the ore. To place this transaction beyond the possibility of suspicion of any sort, the directors applied to Messrs. Laird, the eminent shipbuilders, of Birkenhead, to thoroughly inspect and report upon the suitability of this vessel for the company's requirements. Messrs. Laird kindly recommended a gentleman for this purpose. His report was in every way satisfactory, and the vessel was purchased accordingly. The mining company took delivery of it on the 30th ult., on which day it was paid for in cash, the price being 7000L. The vessel is little over a year old, is the highest class at Lloyd's, and cost nearly 9000L. The shareholders will learn with satisfaction that not only has this vessel been paid for in cash without discounting, but that the dividend now declared will also be paid without discounting any of the company's current ore bills, or in any way interfering with the 3000L. invested in Consols.

CAPE COPPER MINING COMPANY.—The report of the directors to be presented at the general meeting on Wednesday states that the profit and loss account for 1875 shows that the value of the ore returned for that year was 266,721L. 13s. 5d. Its average assay has been 29 per cent., and the average price obtained for it has been 16s. per unit. The costs, including the exceptional charges shown in the account, were 175,097L. 16s. 6d. The result, including the balance of 3397L. 3s. 8d. from 1874, is a net profit of 94,921L. 7s. 7d. This profit has been dealt with as follows:—80,000L. has been paid in dividends, 1110L. 2s. 10d. in income tax, 2500L. has been carried to the landed estates and buildings sinking fund, and 7000L. to the railway and jetty sinking fund; leaving a balance of profit of 4310L. 17s. 9d. to be carried forward. The general results of the past year's operations may be considered very satisfactory. In addition to an increased profit, considerable progress has been made in the development of the Cape Mine. The railway has been completed over the entire distance from Port Nolloth, and machinery of the best and most modern construction has been substituted for that formerly in use. These heavy and costly undertakings having been brought to a close, the large expenditure which they rendered necessary will now cease, and the financial and general position of the company may be expected steadily to improve.

PANULCILLO COPPER COMPANY.—The debenture holders are hereby informed that the COUPONS due on Dec. 15 may now be presented at the Consolidated Bank (Limited) for payment, under discount at Bank minimum rate of 2 per cent.

The creditors of the Swansea Collieries Company (Limited) are requested to send particulars of their claims to the liquidators by July 29. Petitions for winding-up the Millwood Colliery Company (Limited), the Imperial Brazilian Collieries Company (Limited), and the Powell's Lantwit Collieries (Limited) are to be heard on July 15.

Vice-Chancellor Hall has appointed Mr. W. T. Ogden (Ogden, Bowes, and Co.), Watling-street, official liquidator of the Direct Iron and Steel Company.

The directors of the Scottish Australian Investment Company (Limited) announce the usual interim dividend for the half-year ending June 30 at the rate of 10 per cent. This will leave a balance to credit of revenue account of 6700L.

#### FROM A LONDON STOCK BROKER'S CIRCULAR.

Business during the week has been very limited, attention being chiefly confined to the settlement of the "account," which was satisfactorily concluded yesterday. There are few great changes to note in the foreign market. Russian stocks are firm, also Brazilian; but Argentine and Egyptians have declined. There has been a fair business doing in English railways, some of which have materially improved in price. The dividends already announced on Brightons, South Easterns, and Metropolitan are good, and fully realise the general expectations. The Sheffield dividend, which has been announced this morning, is better than looked for, the stock rising 3 to 4 per cent. North British have been heavily sold, and declined to 86, but have rallied again to 89. Beyond a fall in York, A., and Midlands, other railways are steady, and show no great change for the week. The Bank returns were very favourable, and further strengthened the English funds, Consols being 1 per cent. better than last week.

Friday Morning.

J. Y. WATSON, jun.

NEW TYLLWYD.—This company appears to have got very sufficient capital, and before commencing operations they have up prudently obtained the advice of Mr. Walter Eddy, which is as follows:—"Having been informed by the directors that 1500L. had been subscribed for the further development of the mine, I have again carefully examined the mine and workings, and would recommend the following work to be carried out with the money—1. To drive in the 30, on the main lode, both east and west, about 30 fms. further each way—2. To carry up a rise in the roof of the 20, in the most ore part of the lode—3. To drive the 20 east from 20 to 30 fms. further on the south-west branch, to come in under the rich ore going down in the adit level, and which cannot now be worked there on account of the water—4. To

sink a sump or winze in the best part of the main lode 10 fms. deep, below the present 30 fm. level. You will have ample means with 1500L. (with a large margin for contingencies) to carry out the work I have proposed, and any other small trials that appearances would justify the agent in making. Besides, I hope and expect that the ore got from these workings will much more than pay the cost. I would suggest that the back of the adit and 20 fm. level, on the main lode, be set on tribute at so much per ton, and that the halvers at the surface be set in the same way and dressed up. In conclusion, I would strongly recommend you to allot the shares to the amount of 1500L., as I am favourably impressed with the value of the mine, and I know if you do not work it others are ready and anxious to take it up.—WALTER EDDY, Mineral Surveyor: July 11.

#### ZINC ORES.

ARMAND FALLIZE,  
INGENIEUR-CIVIL, A LIEGE (BELGIUM)

BUYER OF  
1.—CARBONATED AND OXYDED ZINC ORES (CALAMINE, &c.)  
2.—ZINC AND LEAD ORES MIXED TOGETHER, BUT DRESS-  
ABLE KINDS ONLY.

#### CAPPER PASS AND SON, BRISTOL,

ARE PURCHASERS  
LEAD ASHES, LEAD SLAGS, SULPHATE OF LEAD, RD LEAD,  
BRASS SLAGS AND ASHES, COPPER REGULUS, MATTE, SCORIA,  
TIN ASHES, TERNE ASHES, &c., and MIXED ORES or REFUSE,  
containing LEAD, COPPER, TIN, or ANTIMONY.

#### THE RIPLEY SPELTER COMPANY RIPLEY, DERBYSHIRE,

ARE PURCHASERS OF  
BLENDE AND CALAMINE ORES, HARD SPELTER, SPELTER AND  
ZINC ASHES, FLOX SKIMMINGS, and other ZINC RESIDUES. Also  
COPPER SLAG, BRASS ASHES, TIN and TERNE ASHES, and SCRUFF,  
and other METALLIC RESIDUES.

WILLIAM CRAWFORD,  
COAL FACTOR AND GENERAL AGENT,  
CONSTANTINOPLE,

IS OPEN TO ACCEPT THE AGENCY OF A GOOD FIRM.

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METALLURGIST AND ASSAYER,

WILL VISIT, INSPECT, AND REPORT UPON MINES,  
DEL NORTE, RIO GRANDE COUNTY, COLO.

GLOVER AND COMPANY,  
DEALERS AND BROKERS IN MANGANESE, SULPHUR ORES, AND  
OTHER MINERALS,  
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LIVERPOOL.

Mr. E. JACKSON,

Associate of the Royal School of Mines,

ANALYST AND ASSAYER.

Assays or Complete Analyses made of Copper, Silver, Lead, Zinc, Tin, and  
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NEWSPAPERS.

#### THE AUSTRALIAN MINING COMPANY.

Incorporated by Royal Charter.  
Notice is hereby given, that the THIRTY-FIRST ANNUAL GENERAL  
MEETING of the shareholders of this company will be HELD at the Guildhall  
Coffee House, Gresham-street, E.C., on MONDAY, the 31st instant, at One o'clock  
P.M. precisely, to receive the report, accounts, and balance-sheet for the past year;  
to elect directors in lieu of Henry Collier and Walter J. C. Cutbush, Esquires, who  
retire by rotation, and offer themselves for re-election; to fix the remuneration of  
the auditors for the past year; to elect auditors for the present year.

By order, GEORGE PALMER, Chairman.  
No. 1, Coleman-street Buildings, Moorgate-street, E.C., July 10, 1876.

The Transfer books will be closed from the 17th to the 21st instant, both days  
inclusive.

#### NEW QUEBRADA COMPANY

(LIMITED).  
Notice is hereby given, that an ORDINARY GENERAL MEETING of this  
Company will be HELD at the City Terminus Hotel, Cannon-street, on MONDAY,  
the 31st July, 1876, at One o'clock, P.M., for the purpose of receiving the Directors'  
report, with balance-sheet and statement of accounts, and for transacting the  
ordinary business of the Company.

And notice is hereby further given, that the Transfer-Books of the Company  
will be closed from Monday, 31st July, until Monday, 14th August next, both days  
inclusive.

By Order of the Board, T. G. GILLESPIE, Secretary.

11, New Broad street, E.C., 14th July, 1876.

#### PANULCILLO COPPER COMPANY

(LIMITED).  
The Debenture Holders are hereby informed that the COUPONS, due 15th day of  
December next, may now be presented at the Consolidated Bank (Limited), for  
PAYMENT, under discount, at Bank minimum rate of Two per cent.

By order, J. S. ALEXANDER, Secretary.

23, Great St. Helena, E.C., 11th July, 1876.

#### MESSRS. W. J. TALLENTINE AND CO.,

STOCK AND SHARE BROKERS.

20, CHANGE ALLEY, CORNHILL, LONDON, E.C.,  
Transact business in Stock Exchange Securities and Mining Shares of every de-  
scription, either for immediate cash or the usual bi-monthly settlements, and also  
afford advice personally or by letter to executors, trustees, capitalists, and investors  
of every class in the selection of Securities for safe and profitable investment, their  
experience of the markets, extending over a period of more than sixteen years,  
together with special facilities for acquiring information, enabling them to act  
beneficially for clients.

They have established Corresponding Agencies in all the principal towns of the  
United Kingdom, and are prepared to deal in the various local Stocks and Shares  
at close prices. Orders per post or telegraph receive prompt attention.

INVESTORS SHOULD APPLY for a copy of Messrs. W. J. TALLENTINE and  
Co.'s Circular, SENT POST FREE. It contains valuable information on Foreign  
Stocks (especially South American, Egyptian, and Turkish), Railways, and Lead  
Mines.

#### BRADWELL MOSS RAKE MINING AND LEAD ORE SMELTING COMPANY.

(LIMITED).

THIS COMPANY'S MINES extend for more than half-a-mile on  
one of the strongest LEAD VEINS in DERBYSHIRE. In driving the  
adit level, running in part through the old men's workings, there have been raised  
and sold upwards of £1200 worth of ore, and the ore is exceptionally rich.

The mine has a NEW STEAM ENGINE, BOILER, and CRUSHING MILL,  
and other appliances, and the main shaft has been already sunk 15 yards below the  
adit level, so as to get under the old men's workings; and it is the opinion of the  
miners of the neighbourhood that when sunk a little deeper and the level driven  
an immensely profitable mine will be laid open.

The working and management are most economical, for the mines have been  
obtained and developed and new machinery bought and erected on a capital of  
4000 shares, of £1 each.

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### Notices to Correspondents.

\* Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be kept on receipt; it then forms an accumulating useful work of reference.

**A HINT TO IRISH TOURISTS.**—Gold not many years ago was found in the county of Wicklow in such abundance that the natives, unaware of the precious metal, used to place large stones containing it to keep their doors open. The streams should be tried as well. —J. B.

Received.—“M. S.” (Philadelphia): They will be very acceptable.—“Reader” (New York): The article appeared originally in the Journal, and must have been copied into the New York paper without acknowledging its source.—“T. R.”—“Shareholders” (St. Columb): We do not know his present address.—“Amicus” (Glasgow)—“F. S.”—“Shareholder” (Pennerley)—“W. T.”

## THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, JULY 15, 1876.

### TARIFFS, AND FOREIGN COMPETITION.

French iron makers and iron founders are displaying much concern lest by the revised import duties the advantage they now have over foreign competitors should be diminished. We are happy to know that this concern is not altogether without cause. A few weeks ago we gave the views upon the probabilities as entertained by the distinguished deputation from France, representing the Government of that country, which came to England seeking information prior to the revision of the tariff. Last week there was held in Paris the first meeting of the Conseil Supérieur de Commerce de France for the purpose of revising the import duties levied in that country. The result of their deliberations is stated to be such as to encourage the hope that considerable modifications will be made in the French tariff in the interests of freer and more extended interchange of manufactures and products between that country and Great Britain. As may be imagined, the French ironmasters have not to fear competition from England alone, but also from Belgium and Germany. Except in the Creusot valley, the making of iron and its manipulation at French engineering works and foundries is carried on under conditions as to working charges, which make the question of duty one of serious moment. Whilst fuel and every raw material can be got only at high comparative rates, valuable skilled labour required by ironmasters and engineers is dearer than in England and much scarcer. Whether, however, the consumers of iron and of engineering work throughout France should be taxed to enable the iron trade of that country to continue a business which can be conducted with greater economy elsewhere is quite another matter. As in our earlier article we remarked the French people have as a nation too largely benefited by the experience of free trade, which they have already enjoyed, to give much help to the bolstering up in their midst of what in their case may be termed an unnatural industry. It is, therefore, to be fairly assumed that the English ironmaster may anticipate with some confidence the result of the negotiations now going on in relation to the new commercial tariff between this country and France.

As we have intimated, all the benefit which may result upon the anticipated reduction will not fall to this country. What benefit may be secured by the revision which is now taking place will, it is understood, be equally applicable to Belgium and Germany. Such goods as rolled girders of large dimensions French architects, as well as the Belgians, have for some time been accustomed to specify; and it may be fairly concluded that Belgian ironmasters will make it somewhat hard work for those of France to prevent from being placed in Belgium all the specifications for this class of iron which they might reasonably wish to keep at home. In certain common sheets likewise, and rods, Belgium may be expected to run the Frenchmen very hard. At the same time, the late grievous troubles through which France has been going has left Germany with advantages in the matter of competition with France in iron which will not tend to the benefit of French ironmasters, however much it may contribute to the benefit of consumers of iron throughout the French Republic. At no time were the German people in such a position as they now are to furnish France at low figures with iron and steel in great quantities. The competition is considerable already—it would be immensely greater if the present duties should be brought down to the extent expected. The capabilities of Germany in iron-making are much larger than are required to meet her home necessities. The manufacture of iron is the most important in Germany. The last published returns, which are those for 1874, show that in that country there are 324 furnaces at work, producing 86,843,681 cwt., from nearly all home ore. These furnaces found employment for 21,912 men and 853 women. The coals and coke consumed by the same furnaces amounted to 80,168,296 cwt., and 5,511,345 cwt. of charcoal, and 1,524,000 cwt. of mixed fuel. How greatly in need of work Germany in particular is just now we need not repeat in this place. The Government ironworks and foundries at Gleiwitz and Malapane are nearly at a standstill, and very many workmen have been wholly discharged. What is true of the Government ironworks in one part of Germany is equally true of Government ironworks in other parts of the same empire, and is even more true in respect of private establishments. A report on the present condition of the iron industry in Westphalia has just been issued by the Duisburg Chamber of Commerce in response to a request from the Prussian Minister of Commerce for quarterly reports on the subject. The report states that the difficulty of keeping employed even the reduced producing power continues to increase, and the entire output can only be marketed at prices which do not cover first cost. Important furnaces have been blown-out, and the stoppage of others is contemplated. A comparison of prices with those ruling in 1868 shows that, while coal prices are still about 25 per cent. higher, those of puddled iron are about 10 per cent. lower than in the year referred to. In favourable instances the prices obtained cover the cash outlay in material and wages, and a portion of the interest on invested capital, leaving nothing for the depreciation account, repairs, &c., so that actual loss is the result of working. In the foundries of the Lower Rhine districts, which in former years marketed with ease an average monthly supply of about 350,000 kilos, only about 84,000 kilos per month are now produced. In the rolling and machine works affairs are in a corresponding unfavourable condition. Notwithstanding, however, that both Belgium and Germany are easily off for work in the iron line—Germany assuredly, and it may be Belgium, also worse off than ourselves, and, therefore, likely to be very eager to do a good business with any neighbouring country whose import duties will permit it—we have little doubt that the lion's share of any new business which may result from a reduction of the import duties upon iron admitted into France will fall to Great Britain.

Interest of quite another kind is felt by the ironmasters of this country in what Russia is just now doing, or is likely to do, in respect of her tariff upon imported iron, and in regard to the encouragement which her Government is likely to afford to the production of iron and steel within Russian dominions. We have no well-grounded hope that the intelligence upon which we have previously dwelt will be proved to have no foundation. It would gratify us if by-and-by a less unsatisfactory state of things should be shown to be likely. The British Iron and Steel Association has done its

duty in seeking at headquarters for intelligence from the Government of the Czar in this matter, and we shall receive with great interest any information which may result from the enquiries which are being made by Earl DERBY through our own representative at St. Petersburg. Meanwhile, previous intelligence as to the greater energy which is being put forth in that country with a view to the development of her coal-mining and iron-making facilities is confirmed in other quarters. Among the establishments which have commenced the smelting of iron with mineral fuel may be mentioned the Bankof Works, in the western mining district of Poland, which produces 2260 tons of pig-iron yearly; and the Lissichausk Works, in the South of Russia. The latter establishment, which belongs to the Government, began operations in 1866, with a view of encouraging private enterprise in the Donetz coal basin in the South of Russia. Since then two private establishments have followed the example of the Government—the New Russia Company, in the province of Ekaterinoslaf, and Mr. PASTOUKHOFF, in the country of the Don Cossacks, where blast-furnaces have been erected, the native coal being the only fuel employed in the manufacture of the iron. For converting cast into wrought-iron coal is used to a small extent in some of the works of the western mining district of Poland, at the Government works of Kamkowsky, in the province of Viatka; and in the Government establishment of Lougan, in the province of Ekaterinoslaf. Besides, coal is used for puddling at the Alexandrofsky Works of Messrs. YSEVOLOJSKY, and at the Kazelsky Works of Mr. LAZAREFF, in the Ural. As regards the technical improvements in the manufacture of iron, Russia may be said to be just emerging from that state of stagnation which has so long characterised it, and this was demonstrated at the Moscow Polytechnic Exhibition.

In the various productions shown a marked improvement was observed both in the quality and the mode of manufacture. Among these improvements may be mentioned the introduction in many works of SIEMENS' puddling-furnaces. Generally speaking, iron of such large dimensions as, for instance, boiler-plates, blooms weighing 2 tons 4 cwt., armour-plates 15 in. thick, weighing 21 tons were unknown at former exhibitions. The manufacture of steel in Russia is also progressing. The Bessemer process has as yet been adopted only in a few establishments. Mr. PONTILOFF, who has a great rail-making and engineering concern at St. Petersburg, may be said to be the first who adopted that process of manufacturing steel in Russia, and latterly the Oboukhof Works have likewise introduced the Bessemer system, as have Mr. DEMIDOFF at his Nijetagle Works, and Mr. BERNADAKI at his Pormoff Works, in the Government of Nijni. A Siemens-Martin steel smelting-furnace is also among the late additions to these works. Mr. BERNADAKI also manufactures steel on the Martin system at his Somovsky Works, near Nijni-Novgorod. Mr. PONTILOFF, who is at present a good customer for English coal, will, it is feared, soon be able to calculate with precision how far it will be prudent on his part to continue to buy from England, or to use the product of the Ural Mountains, since the Government of Russia are actively engaged in laying down lines to connect the coal beds of that district with the principal centres of manufacture throughout Russia. As to iron ore, the store of magnetic ironstone in the Ural is almost without limit. Russian iron and steel makers and the chiefs of cognate industries have formed themselves into two associations, known, the one as the Society for Promoting Russian Commerce and Industry, and the other as the Technical Society. Both of these have now several hundred members, with numerous correspondents in various parts of the Empire. They hold periodical meetings, and discuss, among other things, the all-important question of making Russia independent of the foreign supply of iron and machinery in every shape. They are the efforts of these societies, which are promised the success that the English iron trade are just now fearing in the matter of increased tariffs and Government subsidy.

### THE METAL TRADE.

The first six months of the present year has transpired, and it is customary at such a juncture for merchants, bankers, manufacturers, political economists, and even statesmen to review our commerce, not only to know how trade has been, as a statistical enquiry, but to find some encouragement, or at all events some basis of expectation for the future; to form some idea, in fact, of the probable commercial character of the year. This is very requisite at present, for our exports continue to diminish. War is at least apprehended, the Money Market is abnormal, speculators feel a sort of panic, and quiet steady investors are proceeding with the greatest caution, or leaving their money at interest in joint-stock banks, and commerce is very unsettled. What, then, does the dead half-year reveal of its history in the interest of the miner or portend of his future?

Our imports of Tin have, in some communications made to the *Mining Journal* lately, been represented as increasing at a prodigious ratio, especially from Australia. This does not appear to be the case from the Custom House returns, for during the half-year the value was only 674,372*l.*, as compared with 892,154*l.* in the first half of 1875. These imports consisted of blocks, ingots, bars, or slabs, and regulus. The above figures represent the value of tin imported in every form except that of articles of this metal, of which was really imported only certain ornamental designs executed in France, Belgium, and Holland upon tin surfaces, which are found to receive and retain artistic impressions with susceptibility and tenacity. During the month of June the same falling off in our tin imports was observable, but not in the large proportion of the half-year; the figures are 82,849*l.* and 91,674*l.* respectively.

As is customary, we exported a large proportion of the tin which we received from abroad. The value for the six months has been 255,603*l.*, quite one-third more than in the first six months of 1875, and 2½ times as much as in the same period of 1874. During June we exported foreign tin to the value of 45,942*l.*, twice as much as in June last year, and six times as much as in June, 1874. In fact, a large export trade in foreign tin is growing up, and the outcry raised about our tin imports from Australia, and, of course, the Straits, is unwarranted by the actual facts. Of course, if we can sell it again to other people the mercantile operation of importing tin will employ capital, ships, and labour, and leave behind merchants' profits. There have been attempts to “bear” the tin market and tin mining shares, which the Custom House returns show to have been baseless representations. It may be supposed that these increased exports of foreign tin were at the expense of the production of the West of England miners, but this does not appear to have been the case. The exports fell off in common with all other British productions, but in no remarkable degree. During the six months the value of Cornish tin exported was 217,043*l.*, a decline of about 50,000*l.* from the first half of 1875. Of course, either of those years, as compared with the active period of 1874, show a decline in value; but the quantities were much less in proportion, and between this year and last the figures compare thus—54,239 and 55,130 cwt. It is plain enough, then, that the decline in the exports of Cornwall and Devon tin have not been in proportion to the general diminution of our export business, and persons who for interested purposes have affirmed the contrary are confuted by the figures.

The Copper Trade is, as most of the readers of the *Mining Journal* are aware, a larger one than that of tin. The imports for the half-year were for one of the value of 410,054*l.*, against 322,276*l.* during the corresponding period last year; but for the month the imports fall off very much, not as compared with the other months of the half-year, but with the same month last year; the figures were 43,466*l.*, against 50,546*l.* The imports of regulus for the six months are valued at nearly 600,000*l.*, against over three-quarters of a million last year. The decrease on the month was proportionate.

Of unwrought or part wrought the import was large, reaching 1,631,055*l.*, but very much below the average, and nearly 400,000*l.* less than from Jan. 1 to June 30 last year. There has been a remarkable outcry for some months that the imports of copper were excessive but apart from the general state of trade this has not been the case. The “re-exports” (as they are called) have augmented, being for the longer periods of the value of 635,735*l.* and 602,951*l.* respectively, but these show a great diminution from the more prosperous year of 1874, when they amounted to more than a million in value during

the first six months. The last month of the half-year shows a slight decline in this branch of the copper trade.

The exports of unwrought British and Irish copper, ingots, cakes, or slabs show a decided increase both for the longer and shorter period; for the former the value was 530,066*l.*, against 441,530*l.*; and for the latter 105,432*l.*, against 82,763*l.* During the half-year wrought or manufactured fell away slightly, but not in the same proportion as the business in ingots and slabs increased. The figures for manufactured copper stand thus—first half of 1876, 502,246*l.*, about 70,000*l.* less than in the corresponding period last year, but comparing the two months of June our export shows a small advance upon June of last year, and a very large one in its proportion to the six months; this is a further refutation of the exaggerated reports as to the state of the copper trade for some time circulated. The branch of the trade which has been least prosperous is the mixed or yellow metal sheathing, but the decline is not very great, and it is notorious that there is arising a better demand for this article. Altogether the exports of British and Irish copper for the six months were of the value of a million and a half, slightly less than in the same months last year. For the month of June there is a small increase as compared with the month of 1875, and a large proportionate increase as compared with the half-year itself.

The value of Lead sent from abroad was for six months 845,456*l.*, not very different from the corresponding periods of previous years, as the commerce in this metal, as well as its rate of production, is very steady. For the month the value was 150,790*l.*, showing an increase of the import for the month as compared with the half-year, and not differing to any noticeable extent from the average imports in quantities worthy of record. British and Irish lead was exported to the value of 418,156*l.* during the half-year, against 332,324*l.* in that time 1875, another proof that the trade in metals has not this year been in the depressed state which has been affirmed; during the month the value was 68,592*l.*, slightly less than in the same period in the two former years; these values represent the exports of pig, rolled, sheet, piping, and tubing.

Our imports of Zinc are represented by 284,979*l.*, an increase of about 28 per cent., mainly arising from the more general use of this metal for roofing and other building purposes. This is further shown by the months' return, which is 63,759*l.* These values represent zinc in its crude state, or in cakes. The unenumerated manufactures of zinc were of the additional value of 166,912*l.* up to June 30, and for that month alone 36,908*l.*; none of this was exported. British zinc or spelter was exported only in small quantities, the value for the longer period being 63,725*l.*, and for the shorter one 11,600*l.*, showing in each case a trifling augmentation.

We do a good business in Quicksilver, although these islands produce none. We imported it during the half-year to the extent of 316,815*l.*, a decline from our average imports of about 37 per cent.; this, however, indicates a loss only to the British merchant, more especially as the “re-export” was also much below the average. As the British miner is not a producer, he was not interested in the falling away of this particular trade.

It is, of course, impossible to conjecture what amount of either British or foreign metals is consumed in our hardware and other manufactured exports, but some unfavourable effect must be felt in this direction, as our exports for the half-year fell 9 per cent., and for the month 13½ per cent. With some revival in general commerce, there are good prospects for the Metal Trade, and even if we enslave this branch of our exports will suffer less than others.

### BOILER EXPLOSIONS.

In last week's Journal we drew attention to what are termed “dangerous explosives,” and deprecated further governmental interference with our collieries and our staple manufactures, even in regard to the use of these necessary agents. We contended that trade is already hedged round about with sufficient restrictions and penalties, and that in by far the great majority of cases accidents from explosives are easily traceable to culpable neglect, or ignorant violation of the well-known rules,—that our manufacturers, colliery proprietors, and merchants are keenly alive to the importance and necessity of protecting life in their very dangerous avocations, and may justly resent further interference as unnecessary and unequalled for, as tending to restrict the further development of several legitimate branches of trade, and in many instances to throw almost insuperable obstacles in the prosecution of mining and colliery operations. Boiler explosions certainly come under a somewhat different category, and although many fatal explosions may properly be regarded as due to want of proper skill and discretion, the large number of deaths which occurred during the past year from such a cause demands judicial scientific investigation. A writer in the “Pall Mall Gazette,” a few months ago, in allusion to boiler explosions, ironically remarked that it took “a holocaust of victims to make Government interfere in the interest of public safety,” the writer ignoring altogether the fact that the user of a steam-boiler is now criminally responsible for continuing the use of such boiler knowing it to be defective in make or construction, or being in such a state as to be dangerous to the lives and safety of any of the workmen; and it is by no means uncommon for verdicts of “manslaughter” to be returned against those who have either wilfully or carelessly neglected the regulations and safeguards which science has already thrown around the use of boilers, either in mining operations or in connection with works and manufactures. There are other interests beyond those of the public safety, which, although not paramount, have some claim for consideration when further legislation is demanded, especially when it is remembered that such further legislation would interfere, more or less, with almost every work of any importance in the United Kingdom, and necessarily produce annoyance, and probably vexatious interference, with almost every branch of trade and commerce.

A few weeks since an important deputation waited upon the Home Secretary in order to urge further legislation in reference to steam-boiler explosions, and they adduced arguments and fortified them with statistics which prove that more efficient steps should be taken to prevent accidents from this cause. Some statements of a really startling character were made, which if they can be verified show a reckless disregard for safety which one could scarcely imagine could exist in works having any claim to places where it would be safe to entrust human life. Can it be possible that some of the plates in boilers which exploded were found upon examination to have been worn to the thickness of 1-64th of an inch, in others to 1-32nd part of an inch. If so, certainly some steps are urgently demanded which would at once put an end to such criminal negligence and culpable recklessness, and that when such are properly brought home to the user it should be visited with the severest penalty. From the statistics adduced it appears that last year there were 67 persons killed and 96 wounded by steam-boiler explosions, a far too large a number if proper precautions had been taken, and the scientific knowledge necessary to safety had been brought to bear in the management of steam-boilers. Another startling assertion made to the Home Secretary was to the effect that there were no less than 3000 boilers under the care and inspection of the Manchester Steam-Boiler Association, the safety of which was guaranteed, and that there had not been a single loss of life for several years from explosions of boilers under the guarantee of the Association. Such happy immunity from accidents certainly speaks volumes in favour of efficient inspection; but this to be put into practical operation by the State would call forth such an army of inspectors and swallow up such an enormous yearly amount that neither Mr. Cross nor any other Home Secretary would have the temerity to make such a proposition. Anything like Government inspection, therefore, we think, may be regarded as impracticable, and other more sensible precautionary steps must be resorted to in order to secure so desirable an end as the saving of life in connection with the management of steam-boilers.

In the use of boilers two great fundamental principles may be taken for granted—i.e., that to purchase one simply because of its cheap price is the worst policy that can be adopted, because in almost every case the article will be sure to be a useless one; and, secondly, every explosion is invariably preceded by due warning, which cannot be misunderstood by those accustomed to steam, and



A meeting of the Institute of Colliery Engineers was held at Newcastle on Saturday (Mr. Wright in the chair), when Mr. Hild read a paper, illustrated by a working model, on a machine for saving breakages of coals from screens delivered into wagons. He stated that at their colliery (Shire Moor) the coal was very tender, so that it had become a necessity to get it in as large and round pieces as possible, hence the introduction of this machine, two of which were at work at the present time. In conjunction with Mr. Addison Potter, jun., he had taken the necessary steps to procure a patent. Since the adoption of the machine the quantity of small coals had been diminished by 20 per cent. A discussion ensued, in the course of which the Chairman said the machine was a step in the right direction. Nothing could more improve the value of Northumberland coal than to get it increased in size. Other members expressed



similar opinions, and a vote of thanks to the Chairman terminated the proceedings.

A meeting of the Standing Committee of the North of England Iron Trade Arbitration Board was held on Wednesday, when the report of the accountant (Mr. Waterhouse) as to the results of his examination of the employers' books for the last quarter was presented. The average net selling price per ton of manufactured iron, including rails, plates, bars, and angles, was 7s. 6d. The manufacture of rails declined during the quarter by between 9000 and 10,000 tons, the total made being under 20,000 tons. Of the whole finished iron production rails formed only about 27 per cent., instead of 54 in a normal state of trade. Taking all classes of manufactured iron, there was a total reduction of 7s. 4d. per ton; but owing to a less production of rails, which are of a cheaper class of iron, and an increase of plates, the latter being higher priced, there is only a reduction of 6d. per ton on the total average. These returns are made to regulate wages by the selling prices of iron, but as no notice has been given by either masters or men, no change can take place before October.

There is little change in the state of the Iron Trade; matters are more cheerful at the engine works, foundries, &c., and iron shipbuilding is tolerably brisk. A good business continues to be done in pig-iron, both for the coasting and foreign trades.

At Middlesbrough, on Tuesday, there was only a moderate attendance for a quarterly meeting, and, on the whole, business was very quiet, there being a somewhat lessened demand, except of a speculative character at low prices, to which sellers did not respond. The gentlemen from the Scotch and Midland districts who were in attendance did not speak favourably either of the prospects of trade or of a better prospective demand for Cleveland pig-iron. Still, if the present deliveries for Scotland are maintained there will be every reason for satisfaction. The inland trade has, however, of late fallen off. There has been a slight improvement in foreign enquiries, but buyers are rather holding back consequent upon the increase of stocks. We learn, however, that some furnaces are about to be blown out. The quotations for pig iron differ to some extent, but the average figures are about—No. 1, 40s.; No. 2, 45s. to 45s. 6d.; No. 3, 42s. 6d. to 43s.; less commission. In finished iron there has been a slightly improved demand within the past week or two. A few rail orders have been placed, and in some of the other districts there has been a rather better enquiry. Iron shipbuilding is, however, less active. Prices continue in fair request. There is no change in manufactured iron prices. The wages of blast furnace men are to be reduced, notices having been given at the end of last week to the greater part of the men in the district of a reduction of 10 per cent. The arbitrators are now appointed in the wages question between the Durham coalowners and pitmen, but there has as yet been no appointment of an umpire. The Cleveland Slag Working Company exhibited specimens of concrete, &c., and also of slag, cotton, and Spanish ore, which received attention. Campbell and Co., Middlesbrough, showed a model of Morgan's patent trolley, and other articles. Diagrams of Whitwell's hot-blast stoves were also shown. The coal and coke trades were reported as quiet, and but little fresh demand.

#### REPORT FROM DERBYSHIRE AND YORKSHIRE.

July 13.—The state of affairs with respect to the Iron and Coal Trades of Derbyshire have undergone no change since last notice. There is still about an average production of pig-iron, and a very fair percentage of ironstone is being imported from Northamptonshire. In manufactured iron a steady business is being done at the mills and foundries. Rather more is now being done in house coal with London and the South, but the trade taken altogether is dull, whilst competition is as keen as it well can be. This is more particularly the case with respect to the Metropolitan, owing to the large quantity of sea-borne coal that is being sent there, so that what are termed Waltons are sold within about 1s. per ton of what is charged for Silkestones. Rather more is being done in steam coal, but prices for the season still rule low. It appears that a sufficient number of men have been found willing to accept the wages offered by the manager of the Shirland Colliery, but great dissatisfaction exists with respect to the conduct of that gentleman, who at one time was the great advocate for "rights" on the part of the miners, and a few years ago, on the occasion of a strike at Staveley, he denounced the conduct of Mr. C. Markham, the managing director, in terms that were considered highly libellous. But now that he has an interest in the colliery, and is in receipt of 200l. a year as managing director, Mr. John Holmes throws overboard his old policy, denounces the men who struck, and employs those who are looked upon as blacksheep—so much for consistency. It appears, however, whilst the men at the other collieries had only to submit to a reduction of 12s. per cent., those at Shirland have gone in at a drop of at least 30 per cent., and in some instances it is said of 8s. per week. Such is the benefit derived from working to a colliery owned by unionists, and presided over by a leader of unionists, at one time favourable to strikes.

The Sheffield trades, with the exception of some of the heavy branches, are still very quiet. Makers of heavy armour-plates are well up for orders, and the war has stimulated business in that direction; and, whether it continues or not, there is no doubt but what the great firm of Brown will continue to be busy for some time in war material for foreign Governments. The coal trade has undergone no change, but manufacturing as well as house fuel is easier to buy.

The annual meeting of the Midland Institute of Mining Engineers was held on Wednesday, at the Queen Hotel, Barnsley. There was a good attendance of members, the chair being occupied by the president, Mr. T. W. Embleton. The principal business was the election of officers for the ensuing year. The President, holding office for three years, his term did not expire, but a vote of thanks was awarded him for his services during the past twelve months. The following officers were elected:—Vice-Presidents: Messrs. R. Miller, J. Beaumont, and W. P. Maddison. Council: Messrs. Broughton, Hodgson, Waterton, J. Wilson, Thompson, J. Bailey Jeffcock, and Ackroyd. A motion, of which notice had been given, for the purpose of discussing the desirability of meeting only once in three months instead of monthly, as at present, was considered, but no alteration was made. Mr. Rollin suggested by letter that contributors of papers, &c., on various subjects should be allowed to become honorary members of the Institute. It was, however, stated that such was the rule at present. The proceedings then terminated.

Not the least important feature in connection with the coal traffic by railway to London is the very low price at which for some time every description of coal has been sold in the London market, despite the fact that a great many collieries have been standing. Neither sea-borne nor inland coal has been so low since the same period of 1871, nor has the competition between the two ever been so keen. The advantage, however, has been in favour of the North Country owners, for the freight from the Tyne to the Thames has dropped to about 4s. 6d. per ton, which is fully 2s. 6d. lower than railway-borne coal has to pay from the inland districts. Some of the railways, more especially the Great Northern, have suffered very much from the strike which took place at most of the leading collieries in South Yorkshire and North Derbyshire, which began in the latter part of April, and did not terminate until towards the close of June. The result was that a great deal of the trade was driven into other districts where there were no strikes, so that the London and North-Western and the Great Western Railways in particular were greatly benefited. Now, however, the South Yorkshire colliery owners not only find that they have lost a good many customers, but that the price of coal has come down so very low that it does not leave a profit worth speaking of, if it leaves any at all. The well-known Barnsley seam is now being delivered in London at 23s. per ton, the railway carriage and wagon hire being about 10s. per ton, and 1s. is allowed for terminals and 3s. 6d. per ton for cartage; it will be seen that the profit of either the merchants or the owner must be very small indeed. These figures are within the mark, for Mr. Cockerell, the leading merchant in London, in his evidence before a Select Committee of the House of Commons, stated that the average cost from the rail to the collar was 4s. 6d. to 4s. 8d. per ton. The strike alluded to, however, affected the Great Northern more than any other line, the falling off having been of a very marked character, and for the first time placing that railway in the lowest position of anyone connected with a coal field. This will be seen from the quantities sent to London by the different lines during the last three months, as follows:—

	April.	May.	June.
Midland .....	97,494	101,029	124,942
London and North-Western .....	79,079	87,973	95,523
Great Northern .....	56,599	72,844	45,327
Great Western .....	51,959	61,455	64,312
Great Eastern .....	45,423	44,195	53,679
London and South-Western .....	4,389	841	5,178
Other lines .....	2,656	1,975	1,754
Total .....	352,425	369,713	395,155

The decline by the Great Northern fell almost entirely on the South Yorkshire collieries, for from the seven leading Silkestone pits only about 4500 tons were sent during June, against 12,700 tons for the same month of last year. From the Thorne-cliffe pits of Messrs. Newton and Co., the Great Northern only took about 400 tons, whilst the average has generally been about 1000 tons a week of Silkestones, whilst Clarks, Wharfedale, and Silkestone have been in a similar position. Eight of the Silkestone collieries in the district that in June sent over the Great Northern about

12,600 tons last month were only credited with 4100 tons. Of the collieries working the thick Barnsley seam a comparatively trifling quantity was forwarded to London from the Oaks, Land Hill, Wombwell, and other leading collieries, whilst none whatever was sent from the Silkestone or Edwinstown Main. Six of them last month sent away 5100 tons, against 6900 tons for June, 1875. Both the Midland and the London and North Western, however, carried an increased tonnage from the Silkestone and some other pits in West Yorkshire, taking upwards of 10,600 tons from four of them alone.

The Midland has also regained something like its old position, not only in connection with the colliery district in the West Riding through which it passes, but also in what may be termed its own field, Derbyshire, and from some places, such as Langley Mill, it has taken off late more than during the last few weeks. The strike at Clay Cross caused a decline in the quantity sent during last month to London, which was little more than 13,000 tons, although the average has been fully 6000 tons a week. Now that nearly all the colliers in South Yorkshire and North Derbyshire are once more at work there will doubtless be a great change, and those lines of railway connected with coal fields where there have been no strikes are not likely to do so well as they have done. That some lines have done exceptionally well will be evident by comparing the figures given above as well as those showing the tonnage carried by the various lines for the same last year of 1875 and 1876 as follows:—

	1875.	1876.
Midland .....	816,154	742,748
London and North-Western .....	487,885	497,045
Great Northern .....	482,774	493,269
Great Western .....	254,612	358,354
Great Eastern .....	338,635	321,288
London and South-Western .....	18,314	20,165
Other lines .....	9,900	11,210
Total .....	2,407,674	2,443,017

It may be said that the production of coal is now considerably in excess of what is required, whilst new ports are being opened out in all directions, so it may be fairly assumed that the price of coal has by no means reached anything like its lowest point. A marked revival of the iron trade would make all the difference to colliery owners sending to the Metropolis, as well as to all others connected with the trade.

#### REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

July 13.—There is scarcely any more favourable report to make with regard to the staple trades of the district. In the iron industry, however, there seems to be a better feeling, particularly in those descriptions of iron used in shipbuilding, such as plates. I mentioned last week that the demand for bars had improved, and this is maintained this week, clearances being principally made to Italy. For pigs the demand is only moderate. Requirements for rails are about up to recent averages, and shipments have been chiefly to Canada and the Baltic ports. Orders for the Cape are also in hand. At Landore Steelworks business is still suspended. During the month of June last 11,947 tons of iron were cleared from Newport, against 7771 tons in the previous month; Cardiff, 5567 tons, compared with 11,239 tons; Swansea, 312 against 303 tons. According to these figures it will be seen that during last month Newport shipped some 4000 tons in advance of the previous month; while the clearances from Cardiff diminished to about one-half. Tin-plates are depressed, and there is but little business reported as doing. The suspension to which I alluded last week has now been gazetted; it is that of Messrs. Banks and Co., of Pontymister Works. There are fears that the establishment will be for some time closed.

In the Coal Trade there is no improvement to note this week; in fact, although prices are so low, there is a probability of their becoming still lower. The demand for the East, which has been looked forward to, has not yet appeared. The reason is now palpable, as it is stated that speculators, relying on a war breaking out, had shipped coal to the Mediterranean ports, where it now lies. Welsh colliery proprietors must, therefore, give up the hope of any help from that quarter. In the patent fuel trade business is dull. Several of the establishments were closed, and it is feared they will remain so for some weeks at any rate.

During the month of June last the quantity of coal shipped foreign from Newport was 52,207 tons, against 28,733 tons in the corresponding month of last year; Cardiff, 305,884 tons, against 270,343 tons; Swansea, 57,316 tons, against 55,041 tons; and Llanelly, 9605 tons, against 7859 tons. In the same period there were shipped coastwise from Cardiff 76,027 tons, compared with 60,047 tons; Newport, 62,130, against 64,037 tons; Swansea, 19,611 compared with 24,522 tons; and Llanelly 9753, compared with 14,626 tons. Of patent fuel the exports were—from Cardiff, 6610 tons, against 6118 in the month of May; and Swansea, 21,117 tons, against 21,608 tons.

The report of the directors of the Swansea Bank has been issued for the half-year ending June 30. There is a dividend payable to shareholders at the rate of 7½ per cent. per annum, and a sum of over 4000l. remains to be carried forward to the next account. The general business of the bank is reported as progressing favourably.

The Newport Improvement Bill has passed through the Committee of the House of Lords; but the acquisition of Maidee, a suburb of Newport, by the town council has been prohibited. This was the principal point for which the bill was promoted. The Alexandra Dock, which is included within the borough.

The deputations of Northumberland coal-workers visited this district last week, and went down the Deep Duffryn pit, at Mountain Ash, belonging to Messrs. Nixon, Taylor, and Co. Representatives both of the masters and men were present, and the object of the visit was to ascertain the system of working coal in the district, it being said that the Welsh miners could obtain a larger proportion of large coal than their brethren in the North.

The last month was the best that has been experienced by the Alexandra Dock, Newport, since its opening. Upwards of 50,000 tons of coal and 8000 tons of iron were shipped during that period. The company are making provision, by the erection of additional coal-hoists, for the shipment of 100,000 tons per month.

CAMBRIAN PATENT FUEL WORKS.—A company was formed in 1875 for the purpose of erecting works on the principle of Mr. Thos. Grant's model machine, which he had patented years previously. A freehold piece of land, lying on the east side of the Glamorganshire Canal and west of the Taff Vale Railway, about two miles from Cardiff, was purchased, and on which the works were erected. It is acknowledged by experienced men that in compactness, in the small amount of manual labour employed, and the success attending the working hitherto, this patent excels all others. The firm commenced making fuel on Jan. 19 last, and loaded a vessel of 140 tons in a few days afterwards. The small coal having been discharged from the boats into endless chain boxes at the end of the building, is conveyed into the hoppers, and from there, by means of machinery, from stage to stage, until it is brought out at the other end in smooth hard blocks, at the rate of 15 to 20 per minute, or about 80 tons per day of 12 hours. Since the works started only two stoppages have occurred—one on May 30 to repair the pressing piston, and the other on May 8 for the purpose of adding another boiler to the engine, steam being found inadequate for all purposes.—*South Wales Daily News.*

#### REPORT FROM THE FOREST OF DEAN.

July 13.—The Coal and Iron Trades remain exceedingly dull, with scarcely any exception, the exception only applying to one or (perhaps) two collieries. Work with many does not amount to half time, some only working three or four turns in a fortnight, which makes it exceedingly trying to working men with young families. It tells heavily, too, on the shopkeeping and general business part of the community. The iron miners, too, are feeling the effects of depression in the iron trade. The result of the Quarterly Meeting held this week at Birmingham is likely to influence the Messrs. Crawshaw and Sons as to whether they shall further restrict the manufacture of pig or otherwise, as the prospects may turn out to be. The Great Western Iron Company has attempted another drop of 5 per cent. on wages, and although the men reported not to have objected, the acceptance of the drop is very distasteful, as it would make 15 per cent. drop in all within a comparatively short period. Quite an unexpected event occurred at the Sewdy Works on the following day (Tuesday). The sheriff's officers took possession and marked a large quantity of iron with a view to secure payment of a claim for coals put in by the Crump Meadow Company, the claim amounting to (it is said) 3000l., and report gives currency to a claim by another party to more than double the Crump Meadow claim—for 7000l.; but this last must be accepted as having some uncertainty attached to it. Why it should have been necessary for the creditors alluded to to take such a course does not appear, as the Great Western Iron Company is reputedly a strong one; and the enterprising spirit evinced by it in the purchase and improvement of the property, and its subsequent business luck, have won for it much praise.

The Messrs. Spicer and Co., who were summoned for wages due to several of the employees, as reported by us, have since been dealt with by the Crown for debt from the colliery, the local officials of the Government using their powers by calling a public sale of the plant, &c., to satisfy the claim.

The tin-plate trade is still in a dull condition, and the men are continued on short time. The prices for coal, &c., continue without alteration for some little time past, nor is any further reduction in prices for coal contemplated by the coalmasters, such being, in fact, the resolution arrived at by them at a meeting which they held on Tuesday, at Newnham. As merchants' stocks are known to be low, they (the masters) fully expect that in the course of a few weeks a demand for house coal

will spring up, and that the tendency of prices under those expected circumstances will be upwards.

Referring to our report on the sewage works at Cinderford, there remains little to add by way of supplement, as the gist of the proposed remedy for that department of sanitary measures was, we think, fairly given, notwithstanding that we omitted to mention (what would be very generally understood by the intelligent reader) a number of manholes at different stages of the works. But the proportion of expense of the works, and their maintenance when completed by the various parishes affected, presents a subject for consideration when observation. In East Dean it is estimated that an annual rate upon the assessable value of property of 15d. in 1l. will meet the case, which will not be oppressive to the ratepayers as an additional burden to be borne, but by dividing the Meend (a mere corner of Flaxley) from the rest of the parish it was assessed by the clerk to the Rural Sanitary Authority (Mr. M. F. Carter) that it would require a rate of 1s. in 1l. on the Meend property for the ratepayers living there. This seems a queer arrangement—that the people living contiguous to each other should pay 15d. in 1l., and others eight times that sum. This is what is denoted. This it strikes us is partially with a vengeance. The Meend property a few years ago, when it existed simply as a gorse croft or forest land, but now being the Flaxley Abbey estate until Sir Martin Crawley-Brevel sold it to the Land Society for building purposes, and sold out to working men mostly for the erection of cottages. This has greatly increased the value of this part of the parish, adding vastly to the amount of poor rate (in comparison), whilst any relief has been had from the poor rate in return. And now, by way of gratitude for this large addition to the value of the parish property—property in the parts of the parish of throw-in: the whole of the sanitary and improvement rate on them for payment. But it is traditional for the Tories to attempt to ease an excuse land, and there are many so called Liberals, three parts Tory by nature and principle as the Tories are, and quite as willing to oppress the poor.

It was urged at the Government enquiry at Cinderford Town Hall, by one of the ratepayers, that it was grossly unfair to tax the land of sanitary rates, when it was so much more profitable a holding or occupation than mere house property. This the Inspector would not admit, but we think that the ratepayers were mainly in the right, for a house can only represent the value of its rent as an investment, but it is otherwise with land, since by wise and skilful management it may be so much improved as to produce several times over what it formerly did, whilst house property is all but stationary in value. And yet it is desired to increase the producing property of sanitary rates to extra tax the non-producing house property—non-producing, we mean, beyond the value of the rent. But this policy already bearing its fruit, about one-tenth of the Meend house property having come into the market since the announcement of this partially increased rate, and as a natural consequence, purchasers as shy and backward. In fact, this stupid and unjust rating policy is very seriously deteriorating the Meend property, and it is natural that it should be so. In East Dean, a few yards off, rates are to be 15d. in 1l., whilst in the Meend the same rate is to be 1s. in 1l. As a consequence, it will be cheaper to rent in East Dean than in the Meend, therefore house-holders will move out of the Meend into East Dean to escape the extra expense, and this will continue to depreciate the Meend house property, and this, in justice, is to be inflicted to oblige landholders. Mr. Harrison, the Government Inspector, is undoubtedly a gentleman of capacity and ability, but when at Cinderford his sidings and apparent bias led many to think that the enquiry would only be a farce in the retrospect, as they were persuaded that the matter was a farce, a conclusion, that the Inspector had made up his mind before the enquiry commenced to recommend the easement of Flaxley farmers.

This was the impression made, but the result has not yet been made public by the local Government Board, it is quite out of place to say what Mr. Harrison may have recommended to that authority as the outcome of his enquiry at Cinderford Town Hall. The impression made may turn out to have been a failure—only from appearances, and not from reality—that he was trying what would be said or offered by the other side, and not acting the part of a partisan. The report, however, will declare it. For ourselves, we have endeavoured to discharge a public duty with fidelity to public interests, indicating by our observations what we deem the dangers and errors of the public procedure of the public questions under review; and, if it is clear that our estimates of things are different to those in authority, it has arisen from our conviction that truth and justice demanded the difference. We have followed where, what seemed to us, truth and justice demanded, and think that the reasons of our conclusions will be manifest to the thoughtful and attentive reader. It is much more pleasant than otherwise to agree with constituted authorities; but if the interests of good government and the demands of equal handed justice in public administration claim that we should demur, or show a more excellent way, we should fail to discharge an important duty if we shrink from the avowal and ordeal of being thought forward and outspoken.

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The directors do not bind themselves to accept the lowest or any tender.

G. HOLLAND NEWTON, Secretary.

Secretary's Office, Euston Station, London, N.W., July 11, 1876.

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Secretary's Office, Euston Station, London, N.W., July 11, 1876.

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## In the Court of the Vice-Warden of the Stannaries.

Stannaries of Devon.

IN the MATTER of the COMPANIES ACT, 1862, and of the PETITION for the WINDING-UP of the above-named company by the Court was, on the 10th day of July instant, presented to the Vice-Warden of the Stannaries by Francis Dingey, of Truro, within the Stannaries of Cornwall, Brass and Iron Founder, claiming to be a creditor of the said company, and that the said petition is directed to be heard before the Vice-Warden, at the Prince's Hall, in Truro, on Friday, the 14th day of August instant, at Eleven o'clock in the forenoon.

Any contributory or creditor of the company may appear at the hearing and oppose the same, provided he has given at least two clear days' notice to the petitioner, solicitor, or agent of his intention to do so, such notice to be forthwith forwarded to P. P. Smith, Esq., Secretary of the Vice-Warden, Truro.

Every such contributory or creditor is entitled to a copy of the petition and affidavit verifying the same from the petitioner or his solicitors, within 24 hours after receiving the same, on payment of the regulated charge per folio.

Affidavits intended to be used at the hearing, in opposition to the petition, must be filed at the Registrar's Office, Truro, on or before the 1st day of August next, and notice thereof must at the same time be given to the petitioner or his solicitors.

HODGE, HOCKIN, AND MARRACK, Truro, Cornwall.

Dated Truro, July 12, 1876. (Petitioner's Solicitors.)

## In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACT, 1862, and of the ROSEWALL HILL AND RANSOM UNITED MINING COMPANY.—ALL CREDITORS or CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their several DEBTS or CLAIMS, at the Registrar's Office, Truro, on Monday, the 24th day of July instant, at Eleven o'clock in the forenoon; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents, at the time and place above mentioned.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, the 11th day of July, 1876.

## In the Court of the Vice-Warden of the Stannaries.

Stannaries of Cornwall.

IN the MATTER of the COMPANIES ACTS, 1862 and 1867, and of the WHEEL WREY, LUDCOTE, AND NORTH TRELAUNY MINING COMPANY (LIMITED).—ALL CREDITORS or CLAIMANTS of the above-named company, who have not received notice from the Official Liquidator thereof that their claims have been already admitted, are hereby required to COME IN and PROVE their several DEBTS or CLAIMS, at the Registrar's Office, in Truro, within the said Stannaries, on the 21st day of July instant, at the hour of Eleven o'clock in the forenoon; or, in default thereof, they will be EXCLUDED from the BENEFIT of any DISTRIBUTION made before such proof. And for the purpose of such proof they are to attend in person, or by their solicitors or competent agents, at the place and time above mentioned.

FREDERICK MARSHALL, Registrar.

Dated Registrar's Office, Truro, 12th July, 1876.

## MINE MACHINERY AND MATERIALS FOR SALE.

PLYMPTON ST. MARY, DEVON.

MESSRS. WARD AND CHOWEN WILL SELL, AT AUCTION,

on Tuesday, 18th day of July, 1876, at One o'clock P.M., the undermen-

tioned lots of

MINE MACHINERY AND MATERIALS

At BOTTLE HILL TIN MINE, in the parish of Plympton St. Mary, Devon—

viz., TWO SETS of 12 head STAMPS, with iron axles and guides, and wrought-

iron lifters, nearly new; one 12-head axle (iron); ONE WATER WHEEL, 36 ft.

diameter and 3 ft. breast, with cast iron axle and sockets, wood rim, double-acting

hauling machine, fitted for water wheel; WATER WHEEL, 24 ft. diameter and

3 ft. 6 in. breast, with cast iron axle and sockets, and single hauling machine;

WATER WHEEL, 18 ft. diameter and 4 ft. breast, with oak axle, iron sockets, and

wood rim; ONE BUDDLE WHEEL and FRAME, 6 ft. 6 in. by 12 in., with

round buddle, complete; wrought iron axle, plunger blocks, and two centre

pieces for 26 ft. diameter, and 2 ft. 6 in. breast WATER WHEEL; hand buddles

and launders, tin chests, about 6 tons of wrought iron plates and bolts, whim

pulleys, 22 cwt. of chains of different sizes, steel rope, wrought iron axles, tram

wagons, cast gudgeons, hand jiggling machines, cast couplings, 5 ft. beam, scales

and stand, rope pulleys, smith's tools and crane about 12 tons of useful cast scrap,

4 tons of rail, flat-headed screw bolts, 1 cwt. of brass, handbarrows, two

winze kiddles, whim pulleys, 34 in. bellows, copper bottom, frame of jiggling

machine, carpenter's bench, grindstone, lot of useful timber, plank, firewood, laun-

dries, &c.

Bottle Hill is situated about two miles from Plympton Railway Station, and is

approached by good roads.

Refreshments at Twelve o'clock; sale to commence at One P.M.

Dated Burnville, Brenton, Bridestowe, North Devon, 27th June, 1876.

## THE IMPERIAL BRAZILIAN COLLIERIES.

BY ORDER OF THE DEBENTURE TRUSTEES.

MESSRS. EDWIN FOX AND BOUSFIELD WILL SELL, at the

Mart, on Wednesday, July 19, at Two o'clock, a highly important

MINERAL ESTATE, comprising the VALUABLE

COLLIERIES OF ARROW DOS RATOS,

Situate in the neighbourhood of the town of Sao Jeronymo, on the River Jacuhy,

in the province of Rio Grande do Sul, in the Empire of Brazil, extending under a

very large area, being the most important portion of the coal basin of the Jacuhy;

also about 60 acres of freehold land, on the banks of the River Jacuhy, on which

are a wharf, coal stores, and railway sheds, manager's and cashier's house, la-

bourers' cottages; also a railway, about 3½ miles in length, connecting the mine

with the wharf, together with the freehold of the land for its entire distance, and

the plant and effects, including crane, sidings, rolling stock, locomotive wagons,

trolleys, engines, pumps, &c.

Particulars of WALTER WEBB, Esq., Solicitor, 23, Queen Victoria-street, E.C.;

at the Mart; and of Messrs. EDWIN FOX AND BOUSFIELD, 24, Gresham-street,

Bank.

## HAYLE.

## STEAM ENGINE FOR SALE.

MR. A. BERRYMAN has been instructed to SELL, BY

AUCTION, on Friday, the 21st of July instant, at Eleven o'clock in the

forenoon, at the wharves of Messrs. HARVEY AND CO., Hayle, a superior 70 in.

cylinder PUMPING ENGINE, 12 ft. stroke in cylinder and 10 ft. in shaft, with-

out boilers.

The engine is of modern design, and is in excellent state of repair.

To inspect, apply at the wharves; and for any further information apply to the

Auctioneer; or to Mr. S. T. G. DOWLING, Solicitor, Redruth.

Dated 3rd July, 1876.

## FRANCE—COAL MINES OF ROUJAN.

TO BE SOLD, BY PUBLIC AUCTION, even on one bid, in the

Chamber of Notaries, in Paris, on the 8th August, 1876, the

COAL MINES OF ROUJAN.

A station on the railway of the Midi, in the arrondissement of Béziers, Depart-

ment of the Hérault. Area, 45 kilometres. Reduced upset price, frs. 300,000.

(£12,000).

Apply on the premises to M. DE BRONAC, the engineer of the mine; and in Paris

to M. FOVARD or M. TURQUET, Notaries.

## BERCUNES MINE, NEAR LINDAL IN-FURNES.

TO BE SOLD, BY PRIVATE TREATY, all that VALUABLE

HEMATITE IRON ORE MINE, situate at LINDAL IN-FURNES, and

known by the name of—

"BERCUNES."

As the same was recently worked by WORDSWORTH HARRISON, Esq., J.P., to-

gether with the ore at bank, about 100 tons, and the following MINING PLANT:—

ONE STEAM BOILER with fittings, 500 feet of steam piping, 2 winding gins,

1 gin rope, 2 patent steam pumps, 1 hoisting crab and rope, 4 wheelbarrows, 6 picks,

36 pick shafts, 2 shovels, 4 saws, 1 axe, 2 hammers, 15 hammer shafts, 4 large

water casks, 8 mine buckets, 4 barrels, 2 pair of standards, 2 tumbrelles, 2 augers,

2 tumbrelle ropes, 3 fire pans, 500 yards of water troughing, and about 3000 feet

of larch pit wood.

The mine has been thoroughly proved, and a steady output may, it is believed,

be relied upon.

For conditions of sale, and further particulars, apply to ALAN B. SALMON, Soli-

citor, Ulverston, and Barrow-in-Furness.

## SPELTER WORKS.

TO BE SOLD, THE LEASE and PLANT of the UPPER WORKS,

BAGILLT, FLINTSHIRE, extending over about TWENTY-SEVEN

ACRES of LAND; also about FOUR and a QUARTER ACRES of FREEHOLD

LAND, and one undivided third part or interest in the DEE BANK WHARF, ad-

joining the said freehold.

The plant is at present sufficient for the production of 30 tons of spelter per week

and may easily be increased (the greater part of the land being let off for farming);

there are extensive buildings for storing blende, and heated rooms for making and

storing retorts.

The works are now in operation, and with a production of only about 11 tons of

spelter per week considerable profit has been realised during the last two years.

There are several collieries in operation in the immediate neighbourhood, and the

works are within easy reach of the North Wales blende-producing mines.

The freehold land above mentioned almost adjoins the leasehold property, and is

bounded on three sides by a large colliery, the Dee Bank Wharf named above, and

the River Dee respectively. It is traversed by the Chester and Holyhead Railway,

and situated within a few hundred yards of the Bagillt Railway Station. The site

is, therefore, an unusually favourable one for the erection of works.

Apply to H. C. CARYER, Llandidies, Montgomeryshire.

## TAMAR VALLEY SILVER LEAD MINE, DEVON.

TO BE SOLD, BY PRIVATE TREATY, by the executrix of the

late GEORGE PELL, Esq., deceased, all that desirable MINING SETT,

situate in the parish of BEERFERRIS, in the county of DEVON, together with

the MACHINERY and MATERIALS now in use on the said mine, which will

be offered FOR SALE as a GOING CONCERN.

For plans and particulars, apply to WALTER EDDY, Esq., Llangollen; and to

view, to Capt. TRUBAN, on the Mine.

## SILVER MINE FOR SALE.

THE PROPRIETORS having PROVED the EXISTENCE of a

LODE carrying SILVER, one sample assaying nearly 3000 ozs., and a

parcel sold in bulk at the rate of 134/- per ton, they wish for PARTIES TO JOIN

either in the WORKING or PURCHASE of WHOLE or PART, that sufficient

machinery may be erected to command all the lodes of rich Copper, Silver Lead,

and Tin: £4000 considered ample, but £500 would work the silver branch with

immediate returns. The bulk of the purchase money could be met from the re-

turns of ore and paid up shares.

Apply by letter to "S. B.



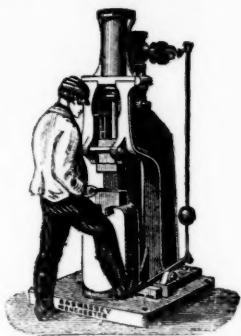
# B. & S. MASSEY, OPENSHAW, MANCHESTER.

Prize Medals—Paris, 1867; Havre, 1868; Highland Society, 1870; Liverpool, 1871; Moscow, 1872; Vienna, 1873; Scientific Industry Society, 1875; Leeds, 1875; Paris, 1876.

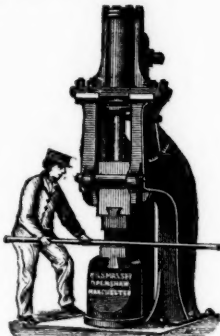
PATENTEES AND MAKERS OF DOUBLE AND SINGLE-ACTING

## STEAM HAMMERS

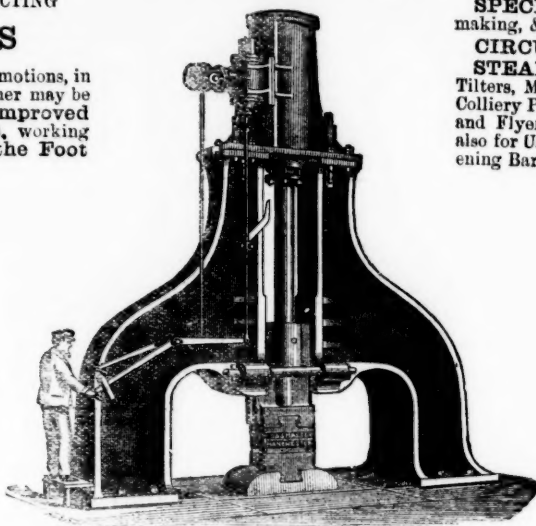
Of all sizes, from  $\frac{1}{2}$  cwt. to 20 tons, with self-acting or hand motions, in either case giving a perfectly DEAD BLOW, while the former may be worked by hand when desired. Large Hammers, with Improved Framing, in Cast or Wrought Iron. Small Hammers, working up to 500 blows per minute, in some cases being worked by the Foot of the Smith, and not requiring any separate Driver.



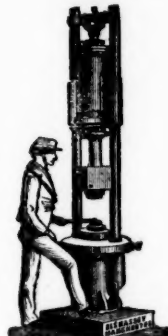
Small Hammer with Foot Motion.



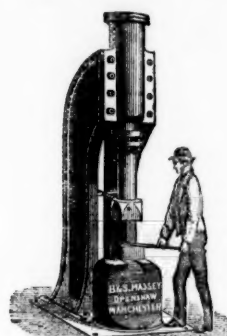
General Smithy Hammer.



Steam Hammer for heavy Forging.



Special Steam Stamp.



General Smithy Hammer.

From 60 to 100 Steam Hammers and Steam Stamps may usually be seen in construction at the Works.

SPECIAL STEAM STAMPS, for Forging, Stamping, Punching, Bolt-making, &c.

CIRCULAR SAWS for Hot Iron.

STEAM HAMMERS for Engineers, Machinists, Shipbuilders, Steel Tilters, Millwrights, Copper-smiths, Railway Carriage and Wagon Builders, Colliery Proprietors, Ship Smiths, Bolt Makers, Cutlers, File Makers, Spindle and Flyer Makers, Spade Makers, Locomotive and other Wheel Makers, &c. also for Use in Repairing Smithies of Mills and Works of all kinds; for straightening Bars, bending Cranks, breaking Pig-iron, &c.

## "Kainotomon" Rock Drill

SELECTED BY THE

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SUPERIOR

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COAL-CUTTERS,

PUMPS,

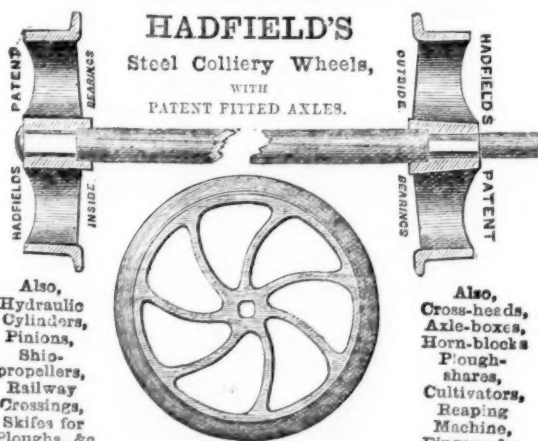
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**CRUCIBLE CAST STEEL CASTINGS.**  
ATTERCLIFFE, SHEFFIELD.

## COAL-CUTTING MACHINERY.

W. and S. FIRTH undertake to CUT, economically, the hardest CANNEL, ANTHRACITE, SHALE, or ORDINARY COAL, ANY DEPTH, UP TO FIVE FEET.

Apply,—

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## CRANE, INCLINE, AND PIT CHAINS,

Also CHAIN CABLES, ANCHORS, and RIGGING CHAINS, IRON and STEEL SHOVELS, SPADES and FORKS, ANVILS, VICES, SCYTHES, HAY and CHAFF KNIVES, PICKS, HAMMERS, NAILS, RAILWAY and MINING TOOLS, FRYING PANS, BOWLS, LADLES, &c., &c.  
Crab Winches, Pulley and Snatch Blocks, Screw and Lifting Jacks, Ship Knees, Forgings, and Use Iron of all descriptions,  
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By a special method of preparation, this leather is made solid, perfectly elastic in texture, and impermeable to water; it has, therefore, all the qualifications essential for pump buckets, and is the most durable material of which they can be made. It may be had of all dealers in leather, and of—

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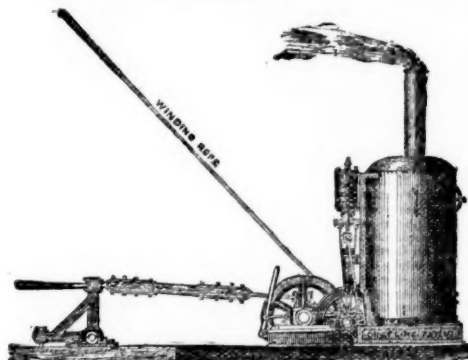
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FOR PUMPING AND WINDING.

SPECIALLY ADAPTED FOR PITS, QUARRIES, &c. SIMPLE and STRONG; require NO FOUNDATION or CHIMNEY STACK, and are EASILY ERECTED or REMOVED.

Sizes, from 2 to 30-horse power.

Steam Cranes,  $\frac{1}{2}$  to 30 tons, for railways, wharves, &c.; hoist, lower, and turn round in either direction by steam.

Stationary Engines, 1 to 30-horse power, with or without gearing.

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MANUFACTURERS of every description of ROUND and FLAT ROPES of any length for COLLIERY, RAILWAY, AGRICULTURAL, SHIPPING, and other purposes, and guaranteed of the highest standard of strength.

Best Selected Charcoal Iron, Best Crucible Cast Steel, and extra strong Improved Steel Round and Flat Wire Ropes; Compound laid non-rotating Flexible Ropes, in Iron or Steel for small gear and sinking purposes; Best Selected Charcoal Iron Guide Ropes; Galvanised and Plain Ropes for capstans, crabs, suspension bridges, canal towing, &c.; Patent Steel Plough Ropes; Galvanised Signal and Fencing Strands; Copper Rope Lightning Conductors; Steel, Iron, and Copper Sash Cords; Picture Cords; Russian, Italian, and Manila Hemp Round and Flat Ropes; White and Tarred Hemp and Flax Spun Yarns; Round and Flat Rope Pulleys and Patent Springs for same; Galvanised Wire Rope for Ships' Standing Rigging; Russian, Italian, Manila, and Coir Cordage; Towlines, Warps, Service and other Lines for Shipping Purposes; Ships' Rigging fitted by experienced workmen.

D, C, and S, beg to call special attention to the advantages to be derived by adopting their EXTRA STRONG IMPROVED STEEL ROPES, for lifting heavy loads in deep mines, also in hauling from long distances; a considerable reduction is effected in weight, friction materially reduced, and an extra amount of work got out of the rope—a rope 8 lbs. per fathom being equal in strength to an iron rope 20 lbs. per fathom, or an ordinary steel rope 12 lbs. per fathom.

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Manufacturers by STEAM POWER of all kinds of Wire Web, EXTRA TREBLE STRONG for

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Also of SPUR, MORTICE, MITRE, BEVEL, and other WHEELS, of any diameter up to 12 feet, made by Scott's Patent Moulding Machine, without the aid of patterns, and with an accuracy unattainable by any other means.

MACHINERY or FOREIGN MINES carefully prepared.

SECONDHAND MINING MACHINERY, in good condition, always on sale at moderate prices.

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